APRIL 8, 1944

APR 1 2 1944

Railway Age

Founded in 1856

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 193[illegible] at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, [illegible] cents each. Vol. 116, No. 15.

Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered in U. S. Patent Office.

Vol. 116 April 8, 1944 No. 15

PUBLISHED EACH SATURDAY BY THE SIMMONS-BOARDMAN PUBLISHING CORPORATION, 1309 NOBLE STREET, PHILADELPHIA 23, PA., WITH EDITORIAL AND EXECUTIVE OFFICES AT 30 CHURCH STREET, NEW YORK 7, N. Y. AND 105 W. ADAMS STREET, CHICAGO 3, ILL.

WASHINGTON 4, D. C.: 1081 NATIONAL PRESS BUILDING. CLEVELAND 13: TERMINAL TOWER SEATTLE 1: 1033 HENRY BUILDING, SAN FRANCISCO 4: 300 MONTGOMERY STREET, ROOMS 805-806. LOS ANGELES 14: 530 WEST 6th STREET.

SAMUEL O. DUNN, CHAIRMAN. HENRY LEE, PRESIDENT. ROY V. WRIGHT, VICE-PRESIDENT AND SECRETARY. F. H. THOMPSON, E. T. HOWSON, F. C. KOCH, R. E. THAYER, H. A. MORRISON, J. C. LYNE, H. E. McCANDLESS, VICE-PRESIDENTS. J. T. DeMOTT, TREASURER.

SAMUEL O. DUNN, EDITOR. ROY V. WRIGHT, MANAGING EDITOR. ELMER T. HOWSON, WESTERN EDITOR. JAMES G. LYNE, ASS'T. TO EDITOR. C. B. PECK. ALFRED G. OEHLER. E. L. WOODWARD. I. H. DUNN. R. A. DOSTER. H. C. WILCOX. NEAL D. HOWARD. CHARLES LAYNG. GEORGE E. BOYD. WALTER J. TAFT. M. H. DICK. JOHN S. VREELAND. C. MILES BURPEE. ARTHUR J. McGINNIS. J. L. STOVER. C. B. TAVENNER. H. E. MEASON, LIBRARIAN; EDITH C. STONE. EDITORIAL ASSISTANT: BETTY KETCHUM.

RAILWAY AGE IS A MEMBER OF ASSOCIATED BUSINESS PAPERS (A. B. P.) AND AUDIT BUREAU OF CIRCULATION (A. B. C.).

SUBSCRIPTIONS, INCLUDING 52 REGULAR WEEKLY ISSUES, AND SPECIAL DAILY EDITIONS PUBLISHED FROM TIME TO TIME IN NEW YORK OR IN PLACES OTHER THAN NEW YORK, PAYABLE IN ADVANCE AND POSTAGE FREE. UNITED STATES, U. S. POSSESSIONS AND CANADA: 1 YEAR $6.00; 2 YEARS, $10.00; FOREIGN COUNTRIES, NOT INCLUDING DAILY EDITIONS: 1 YEAR, $8.00; 2 YEARS, $14.00. SINGLE COPIES, 25 CENTS EACH. H. E. McCANDLESS, CIRCULATION MANAGER, 30 CHURCH STREET, NEW YORK 7.

In This Issue

Page

Acclaim For Soldier-Railroaders ***672***

Lt. Col. Ralph E. Sherer, chief maintenance of way officer, Hdq. staff, European theater, M.R.S., and an eyewitness in North Africa, tells of railway rehabilitation and operation in the combat zone, where railroaders supplied troops, built cars, evacuated wounded and generally did "more than they'd been called upon to do."

Postwar Goals—Rich but Not Easy ***677***

New Haven Vice-President C. E. Smith looks for a continued and "accentuated" inequality of opportunity for railroads in the postwar era. To meet expected competition he offers many practical suggestions, including intensive research for new materials, methods and equipment.

What Electric Operation Is Doing ***685***

A discussion by J. V. B. Duer, vice-president, operation, of the Pennsylvania's experience with war-time traffic, showing how electric motive power can be used to best advantage in co-ordination with supplemental steam power.

EDITORIALS

Business, Labor or Government Monopolies? 669
Statesmanship's Improvidence Toward Transportation 670
Engineers—On the Spot 670
Seeing in the Dark 671

GENERAL ARTICLES

Acclaim for Soldier-Railroaders, by Lt. Col. Ralph E. Sherer... 672
Head American Car & Foundry Co. 676
Postwar Goals—Rich but Not Easy, by C. E. Smith 677
Figures Show Wage Trend Dangers 681
Pere Marquette Devises Visual Training Plan for Employees.. 682
J. Monroe Johnson Heads O.D.T. 683
What Electric Operation Is Doing, by J. V. B. Duer 685

RAILROADS-IN-WAR NEWS **688**

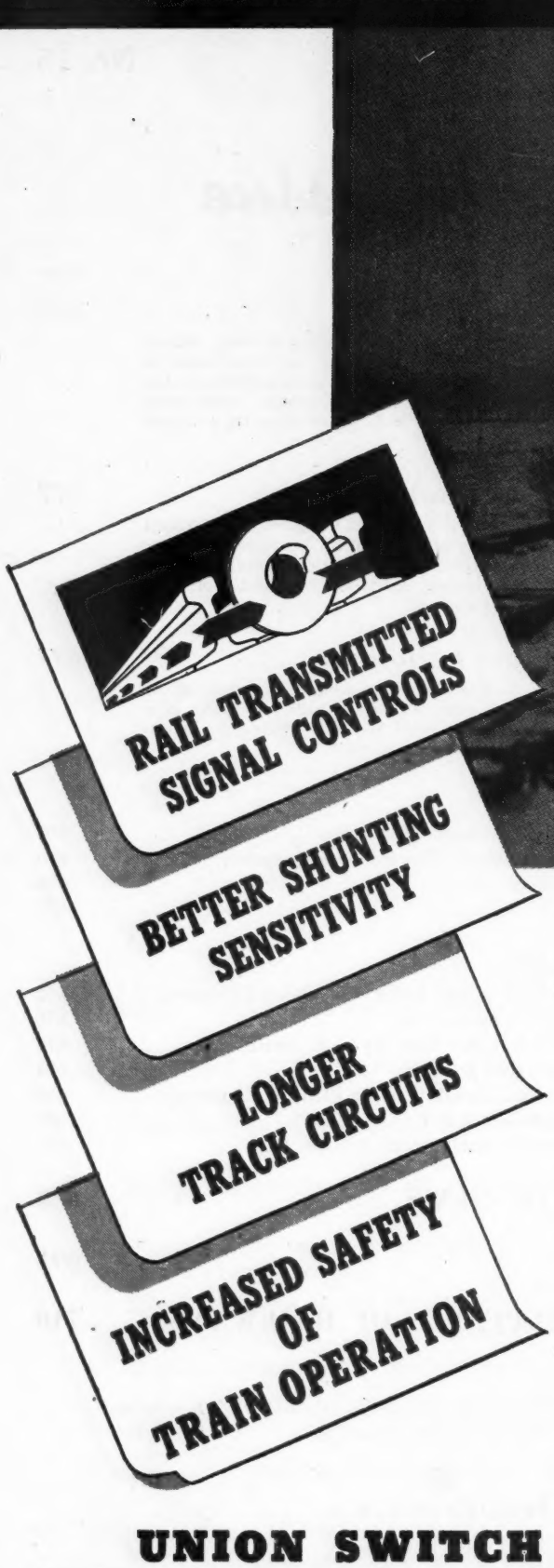
GENERAL NEWS **691**

REVENUES AND EXPENSES OF RAILWAYS .. **710**

The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

PRINTED IN U. S. A.

"Union" Coded Track Circuit Control insures continuity of signal service despite adverse weather conditions!



WHERE "Union" Coded Track Circuit Control has been installed in territories that are subject to severe snow and sleet storms, both operating and signal officers have a keen appreciation of the value of rail-transmitted signal controls in maintaining normal train operation during adverse weather conditions.

This modern system utilizes coded track circuit current to control wayside signals alone or both wayside and cab signals and thereby eliminates entirely or greatly reduces the number of line wires required . . . and since continuity of power for the signal system may be made independent of the commercial source, pole line failures do not seriously affect train operation. See our Bulletin 157 for details!

UNION SWITCH & SIGNAL COMPANY

SWISSVALE, PA.

The Week at a Glance

UNFORESIGHTED STATESMEN: How did the country happen to have adequate transportation, when the terrific war load came? Was it because political leaders in Washington "planned it that way?" Obviously not. The way federal money was thrown around in the 'Thirties for waterways and highways—and the discouragements heaped upon the railroads—indicated more clearly than words that political leadership believed the country meant to rely henceforth more on tax-supported transportation, and less and less on the railroads. As an editorial in this issue points out—the nation owes the adequacy of its transportation today to the stubbornness of the railroads in neglecting to take the strong hint that they wither away; and to the facilities the carriers had acquired when investment money was available in the 'Twenties. The present political preoccupation with even larger federal hand-outs for ancillary modes of transportation indicates that, even yet, the obvious transportation lessons of the present war are still a secret to our predominant national leadership.

●

MONOPOLY IS THE ENEMY: While private monopoly (either by big business or big labor) may be a pleasant power to the monopolists—experience shows that such monopoly cannot endure; it is invariably superseded by government monopoly. The last state of the erstwhile private monopolists thus becomes infinitely worse than it was before the unhappy day when they began such practices. Such in substance is the exegesis of Eric Johnston, which is discussed in this issue's leading editorial. We agree with Eric Johnston: If business and organized labor do not wish to have a fascist government monopoly to boss them, they will resolutely re-establish free competition. The acceptance of circumscription of one's actions by competition is the only alternative to *prescription* of them by the bureaucracy.

●

MORE JOBS FOR NEGROES: Colored waiters and waiters-in-charge on the P. R. R. will be given the same consideration as other applicants for jobs as dining car stewards on that road, the President's "Fair Employment Practices" Committee discloses. Negotiations to this end were worked out directly with representatives of the employees. In addition, as is reported in the news pages this week, several hundred negro mechanics and helpers have been "upgraded" on this road, and agreements have been worked out so those properly skilled and experienced may be employed in ten additional classes of mechanical department work.

●

DANGEROUS WAGE TREND: There are a lot of railroad men keen at figures, and a distinguished Canadian economist invites the pencils of the dubious and inquisitive to go to work checking some calculations of his which are believed to *prove* the presence of trends, harmful to labor as well as others, in the existing railway wage situation. This analyst's findings are summarized on page 681 herein. He has established a close positive correlation between railway operating revenues and total wage payments, and almost as close an *inverse* correlation between hourly wage rates and both employment and total wages. Similar conclusions have been possible, deductively, all along—and statistical analyses of limited extent have also suggested these findings; but now, evidently, a thorough job has been done. If the checking the author asks for verifies his computations, a question often hotly debated should be removed from the area of controversy.

●

WISDOM FROM C. E. SMITH: The New Haven's vice-president in charge of purchases is a railroader with an outlook as wide as it is deep; while to few is given his skill in saying things both as felicitously and accurately. An unusually (even for him) adept expression on the postwar outlook was his contribution to the success of the recent A. R. E. A. meeting—a speech which is abstracted in this issue. Mr. Smith gave the engineers their due meed of praise, but he suggested, by means of a rather long list of pointed reminders, that they had not quite achieved perfection. If this address weren't full of helpful ideas even for the best informed, it would still be worth the reading as entertainment.

●

JOHNSON'S NEW JOB: In again drawing upon the experience and talent represented in the I. C. C. membership to meet the exacting requirements of the O. D. T. directorship, President Roosevelt has given to Colonel Johnson an opportunity —and one plentifully endowed both with power and with pitfalls—to demonstrate further, in this wider responsibility, the awareness he has already actively evinced and forcefully expressed of the vital importance to the conclusion of the war of a transportation machine functioning at top pitch. By retaining his supervision of the commission's Bureau of Service, the new O. D. T. director already has taken a step toward further co-ordination of the efforts of these government agencies and the railroads to produce transportation with the utmost efficiency.

●

AN OLD HAND: No newcomer to Washington, and no neophyte in the temples of politics, Colonel Johnson will undertake his widened administrative duties in surroundings where he is already fully at home, and will have at his disposal tools familiar to his hands.

●

THE INDISPENSABLES: Discussions in Washington last week in search of a way to meet the demands of the Army and Navy for men under 26, while at the same time retaining in essential industry those in that group whose skills and abilities are demonstrably indispensable, developed more acrimony than agreement, it may be inferred from accounts of the meetings. As recounted in our news columns, General Young went to bat for the railroads, but the final score isn't in yet, and it appears there are still some important people to whom efficient wartime transportation isn't a primary consideration.

BATTLE AREA M. OF W.: In our March 25 issue Brig. Gen. Carl Gray, Jr., gave a report on military railroading in the Mediterranean theatre. In this issue his report is supplemented and amplified in illuminating fashion, as to the North African operations, in an article based on the remarks at the recent A. R. E. A. meeting of the chief maintenance of way officer in the European area, Lt. Col. Ralph E. Scherer. In meeting rehabilitation and maintenance problems these American railroaders have had to draw frequently on their capacity to "reduce the insuperable to the negotiable," his detailed examples show.

●

FOR BUSINESS USE ONLY: To the extent that they are available, the railroads and the Pullman Company will be authorized by the O. D. T. to provide necessary extra trains and special cars for the transportation of delegates and other accredited visitors whose presence is certified to be essential to the functioning of this summer's national political conventions. The provisions to be employed to restrict these accommodations to those for whom they are intended, and to keep out those who want to go for the ride and the excitement, are outlined in the news pages. Even for essential travelers there will be no parked sleepers this year to provide the customary convention living quarters.

●

SHOWING THEM HOW: What is being done on one division of the Pere Marquette to use a form of visual teaching —the basis of which is the projection of a planned series of colored slides showing actual railroad situations—to impress upon employees, and especially new employees, the vital importance of proper rule observance is explained in an article beginning on page 682. To minimize any development of the teacher-pupil attitudes of the schoolroom free-for-all discussion is encouraged, and attendance is strictly voluntary.

●

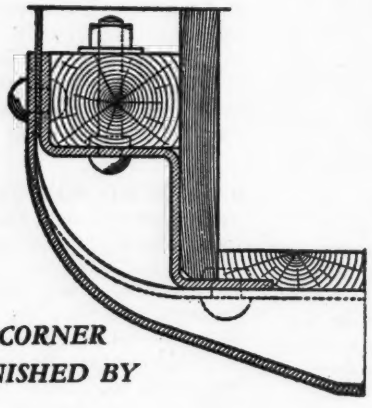
BALANCED POWER: The sort of engineering forethought that goes into large-scale railroad improvements is illustrated in a feature article herein explaining how the installation and development of the Pennsylvania's main line electrification was expanded—taking the fullest advantage of its favorable characteristics—to handle wartime traffic movements, but limited at the same time, through the expansion of the supplemental steam power facilities, to avoid an over-expansion difficult to justify in the light of expected postwar traffic and competitive conditions.

●

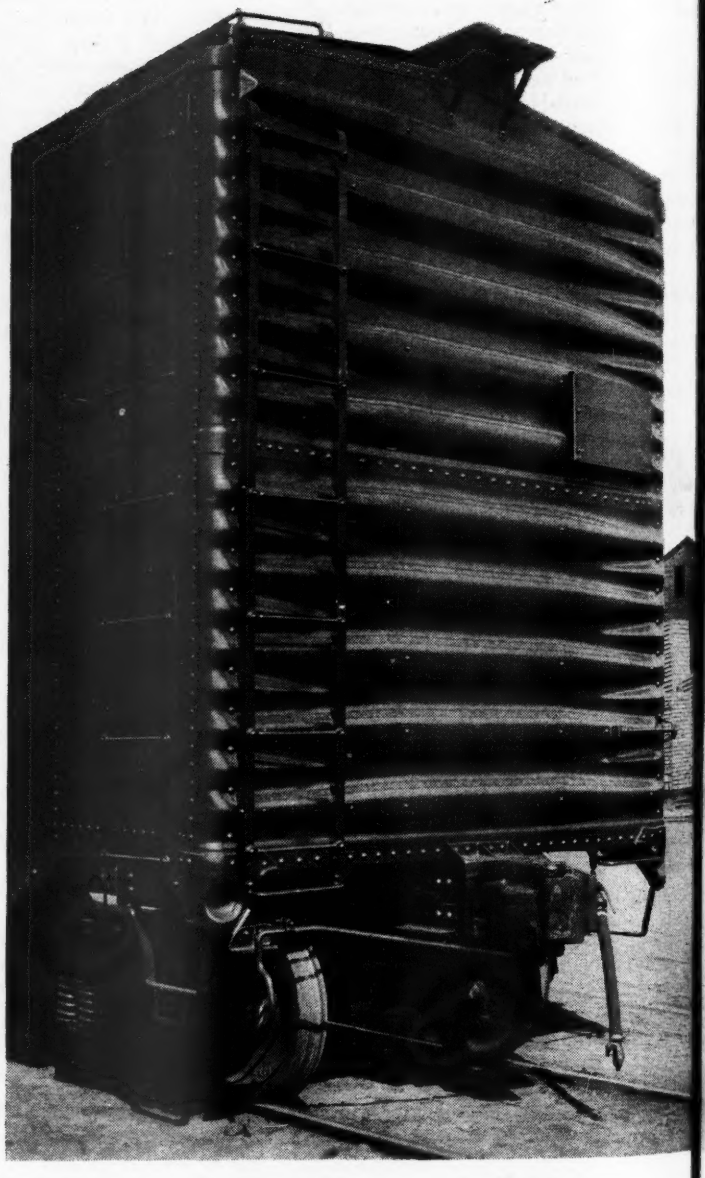
LAST YEAR'S PURCHASES: In no year since the boom era of the late 1920's have the railroads spent as much for materials, supplies and fuel as they did in 1943, figures from the A. A. R. disclose, as reported in this issue. Last year's total was greater by 10.7 per cent than was 1942's, but a substantial part of this increase was accounted for by higher prices—a point that might have some significance to the O. P. A.

FREIGHT CARS ARE RECEIVING SEVERE PUNISHMENT IN THIS EMERGENCY.

MAINTENANCE RECORDS WILL SHOW THAT CARS WITH *Round Corner* DREADNAUGHT ENDS AND W-SECTION CORNER POSTS ARE PROVING THEIR VALUE.



W-SECTION CORNER POSTS FURNISHED BY BUILDER.



STANDARD RAILWAY EQUIPMENT MFG. COMPANY

HAMMOND, INDIANA

WORKS: HAMMOND, INDIANA — NEW KENSINGTON, PA

CHICAGO OFFICE—310 S. MICHIGAN AVE.

Efficiency FOR VICTORY

Business, Labor or Government Monopolies?

Eric A. Johnston, president of the Chamber of Commerce of the United States, has written a short statesmanlike pamphlet entitled, "A Warning to Labor—and to Management." He emphasizes the greatest present menace to free private enterprise—viz., monopoly.

There are three kinds of monopoly—business monopoly, labor monopoly and government monopoly. Either business monopoly or labor monopoly alone tends to cause government monopoly. When both business and labor monopolies become prevalent in a country, either government will destroy them or substitute government monopolies for them. The reason is, that the prevalence of business and labor monopolies prevents private enterprise from functioning efficiently enough to provide adequate production and employment.

Under modern conditions, government then almost invariably intervenes to increase employment. And, usually, instead of using its power to destroy the private monopolies, it now uses it (1) to take control of the private monopolies and (2) to increase taxes and spend vast amounts of money in providing employment on so-called "public works" most of which create subsidized competition tending to destroy private enterprise.

Why do monopoly practices, whether of business or labor, tend inevitably to curtail production and employment by private enterprise? They are adopted by both business and labor to prevent what is called "overproduction." Business adopts them in fear that unrestricted competition in this or that industry would cause a volume of production which would depress its prices and reduce or wipe out its profits. Union labor adopts them to prevent the production of more goods than could be marketed, which would cause reduction of employment. As business, when it curtails production, does restrict employment, and as organized labor, when it restricts its work, does curtail production, it results that their use of monopoly practices to prevent *overproduction* inevitably results in *unemployment* and *underproduction.*

It often has been said since beginning of the Great Depression almost fifteen years ago that private enterprise in this country has been stricken with some new and mysterious disease which has rendered it unable to provide adequate employment as it formerly did, and that if there is not better diagnosis and treatment of this disease private enterprise will succumb and be succeeded by some form of communism or fascism. Mr. Johnston indicates his diagnosis and treatment.

"What about agreeing, more or less, as follows?" he says in part. "We of management will try to repress monopolistic practices, unfair treatment of competitors, and business racketeers. You (labor) will try to repress monopolistic practices, unfair treatment of fellow-workers, and labor racketeers. . . . We will try to reduce the number of our 'strikes' which withhold inventions and products. You will try to reduce the number of your strikes which withhold labor and service. We will try to give you job security and basic income security. You will try to give a full honest day's work every day. . . ."

Mr. Johnston is on the right track. The way for business and labor to prevent establishment of a fascist government monopoly over both of them is for business and labor fully to restore the free competition which is essential to the maintenance of private enterprise.

Statesmanship's Improvidence Toward Transportation

It is primarily to the dogged stubbornness of the railroads in the 'Thirties, in persisting to maintain their plants intact as best they could with the scant funds available, that the nation owes the adequacy of its present war-time transportation service. No "planners" in Washington deserve any credit for existing railroad conditions—favorable and necessary as they are to military victory—because these "planners" didn't do anything about the railroads in those trying days except to discourage them in almost every way they could.

As if the general depression in production and traffic were not enough, Congress and local governments in the 'Thirties made unprecedented appropriations for the development of highway and inland waterway transportation—uneconomic then and of little utility in moving war traffic now. On every hand the railroads were chided for their plant expansion of the 'Twenties and were advised to wither, both physically and financially, in keeping with a diminished and declining status in the economy. This overmodest estimate of the nation's future needs for railroad service was not confined to the brash young men of the New Deal. In 1935 the well-known Poor's Publishing Company likened the railroads to the canals and the interurban trolleys, which had been superseded by evolutionary progress in transportation.

The "National Highway Users Conference" not long before our entrance into the war issued a pamphlet in which it proclaimed that Hitler was the conqueror of Europe because of his reliance on motorized equipment and his intensive development of highways, which, it was asserted, was a lesson he had learned from America. "Second only to the waters of the seas," these automotive spokesmen explained, "the greatest single element in any scheme for the defense of America must of necessity be based on our system of highways." A military man was quoted to the effect that "war can be conducted without railroads but not without roads."

About the only official precincts in which some appreciation of the nation's continuing dependence upon the railroads appeared to persist were the Interstate Commerce Commission, the interstate commerce committees of the House and Senate, the transportation branch of the War Department, and possibly the White House—but none of these agencies exerted sufficient leadership to arrest the trend of events.

Despite the improvidence of our statesmen, the nation found when the blow was struck at Pearl Harbor that it had transportation service adequate to its needs —thanks almost entirely to the much-criticized capital expenditures made by the railroads in the 'Twenties and to their obstinate refusal in the 'Thirties to admit that they were licked. What had been berated as railroad managements' profligate over-optimism in the 'Twenties, and their die-hard neglect to fade away before "progress" in the 'Thirties, turned out to be judgments more serviceable to Uncle Sam than any of those made by the statesmen to whom he had entrusted the safety of the nation.

These facts are all plain enough for anyone to see, but apparently the lesson from them has not even yet been learned. The enthusiasts for waterways and superhighways (and now air transportation) are eyeing the Treasury with a leer even more lustful than that which preceded their depression "pump-priming" orgy. Predominant national opinion, while seemingly somewhat more aware than heretofore of the nation's dependence upon the railways, does not yet appear to suspect that there is any connection between boundless bounties to auxiliary methods of transportation, and unwillingness of private investors to supply the funds needed to keep railroad service modern.

If the railroads are to be prepared in some future emergency to duplicate their present "miracle" in transportation service, they will need in the interim a renewal of liberal capital expenditures such as those of the 'Twenties. To provide an atmosphere favorable to such private investment is the prime requisite of a realistic policy to safeguard the national interest in continued efficient transportation—an obvious and prosaic conclusion, which official Washington, in its preoccupation with glamour and glitter, finds hard to attain.

Engineers—On the Spot

Few railway executive officers have a higher regard for their associates in the engineering and maintenance of way departments than C. E. Smith, vice-president of the New Haven and an engineer by training and experience, but this fact has never deterred Mr. Smith from appraising his engineering friends frankly. That his candid judgment is welcomed by these men is evidenced by the frequency with which Mr. Smith has been invited to participate in the programs of the various engineering and maintenance associations, and the close attention which their members always give to his remarks.

In his most recent address before a group of these officers, at the forty-fourth annual meeting of the American Railway Engineering Association on March 16, which address is abstracted in this issue, Mr. Smith withheld no praise from those present for the outstanding job they have done to date in supporting the war effort of the railways, and expressed confidence that they will meet successfully the problems that still lie ahead. However, by indirection, if not directly, he charged them with many shortcomings and challenged them to rise to the broad opportunities, if not the necessities, of the postwar period.

Speaking of the inequality of opportunity that exists between the railways and other forms of transporta-

tion at the hands of government—of subsidies to competitors, land grant rates, and other matters affecting the welfare of the railways, Mr. Smith said, "The challenge to engineering and maintenance officers is not confined to their particular duties of providing and maintaining an adequate operating structure. It includes as well their obligation to represent the railroads in their contacts with others, so they may understand railroad problems better than in the past." Continuing, he asked, how many of those present were able, in their own neighborhoods, to discuss in public assembly an inequality such as exists between the railroads at South Station, Boston, and the East Boston Airport? "How many of you," he asked, "would feel safe in getting up in a public meeting today and discussing the relation of the railroads to land grants?" The inference was clear—that railway engineering and maintenance officers have not accepted their full responsibility in this regard.

Even in their own "backyard," these officers were put on the spot when the speaker referred to the present inefficiency in the handling of millions of cross-ties, from points of receipt of the green ties to points of insertion in the track. This should be done by mechanical devices, Mr. Smith said, and then added ironically:

"This would not seem to tax the ingenuity of railway engineering and maintenance officers beyond their capacity." Later, he expressed his opinion that the maintenance of way department has lagged behind the mechanical department in the use of modern machines; decried the long delay in adequate study of the relation of rolling equipment to the track structure; and then referred to a number of modern maintenance of way methods and practices, including the continuous welding of rail, the use of highway trucks by maintenance gangs, the proper anchoring of rail, and the use of power tools and machines—all with the inference that, while much may have been done in these respects by individual roads, much more might well have been done, and unquestionably must be done in the postwar period.

As if this were not admonition enough, he said in closing: "If we go on complacently after the war doing as we have done in the past, we will not meet the challenge offered to improve our plants so that better, faster, safer and more dependable service can be rendered at less cost, and without loss."

A Correction

In the editorial entitled "Eddie Rickenbacker Suffers an Off-Day" published in the *Railway Age* of April 1, page 628, the statement was made that the Transportation Association of America "advocates some things (compulsory railroad consolidation, for example) which many if not most railroad men oppose." The Transportation Association of America has never advocated compulsory railroad consolidations and the statement that it now advocates them is erroneous. It does advocate railroad consolidations, but only consolidations voluntarily made by the railroads.

Seeing in the Dark

When it becomes necessary to see in dark places, the obvious thing to do is to dispel the darkness with light, though as one superintendent said when a lighting system was proposed for the area around the enginehouse and adjoining buildings, "I don't want illumination, all I want is a little light." That good lighting increases work efficiency is generally recognized and, when properly used, its value as a safety factor is well substantiated. There are lighting requirements, however, which do not readily lend themselves to lighting systems in the ordinary sense, and the war has given stimulus to three recent developments which will undoubtedly find many new civilian applications when they again appear upon the market. These are fluorescent, phosphorescent and reflective materials—available variously as dyes and paints.

The fluorescent materials give off visible light when they are subjected to ultraviolet or near ultraviolet light and have little afterglow; they cease to radiate as soon as the exciting influence is stopped. Phosphorescent materials may be activated by a brief exposure to daylight or to artificial light in intensities as low as five foot-candles. They will then continue to give off light for periods varying from two to twenty-four hours. This light is of much lower brightness than that produced by the fluorescent materials and is useful only to the dark-adapted eye. One of the most effective reflective coatings is a paint which contains tiny glass spheres and which returns a large part of any incident light back toward the source.

Fluorescent dyes have been used for carpets in passenger cars. Fluorescent pigments also have potential value for use as signs, and surfaces coated with them appear more brilliant in daylight than those coated with other paints.

If railroad blackout requirements had become important, the phosphorescent materials would probably have found wide applications. Up to the present time they are not used in railroad service, but it is proposed that they might serve effectively for car numbers, switch panels in sleeping compartments, line markers in dark places, outlining of fire apparatus, for locomotive cab equipment, etc.

The reflective paints have been used as lane stripes on highways. Railroads do not require stripes to indicate lane boundaries, but there are many signs and objects which the engineman uses that are much more visible in daylight than they are at night, and the reflective paint could be used to pick these out clearly against the dark background of night. The coatings might also be used to show objects which must be found or inspected by the light of a flashlight or inspector's lantern and might prove better than fluorescent or phosphorescent paint for car numbers. When the coatings became available for general distribution, railroad users will undoubtedly test and determine the value of each of them.

Acclaim for Soldier-Railroaders

Eyewitness tells how Army railroad men in North Africa, under Brig. Gen. Carl R. Gray, kept "passing the ammunition" despite difficulties and hazards

By Lt. Col. Ralph E. Sherer

Chief Maintenance of Way Officer, Headquarters Staff, European Theater, Military Railway Service

I HAVE just returned to the States after nine months overseas. After operating single-track railroads with antiquated engines, small, hand-braked freight cars, with no signal or dispatching system worth the name, no headlights on our locomotives, and with grades of 2½ and 3 per cent, I have spent most of the last few weeks renewing my appreciation of our American multiple-track railroads, with heavy power, big cars, air brakes, low grades, automatic signals, and other safety controls. Perhaps you take these things for granted, but come overseas with me and you'll gain a new esteem for America's great railroads.

I hope that you are proud of the record of American railroad men overseas; you should be. They are making a great name for themselves on five continents. Doubtless you know of the great record of the Military Railway Service in North Africa and Sicily. Our soldier-railroaders are right behind the American Fifth army and the British Eighth army in Italy; they operate the tortuous trans-Iranian railway by means of which Russia receives a great part of its lend-lease supplies. Our men are in India, Egypt, the United Kingdom, Alaska, Canada, and even in New Caledonia in the Southwest Pacific.

Upon capture of enemy-held territory, the first duty of the Military Railway Service is to make reconnaissance of rail lines and equipment, in anticipation of their immediate use to support advancing troops. The actual rehabilitation of rail lines, construction of new trackage, repairs to bridges, clearing of anti-personnel mines and enemy demolitions, ordinarily are duties of the corps of engineers. But we discovered early in the North African campaign that more often than not the engineers were too busy with combat units to assist in getting the rail lines back in operation in the shortest possible time.

Ahead of Combat Troops

So, from the start, the Military Railway Service, in addition to its own engineering activities, began to assume these additional functions, to the end that rail facilities would be in operation quickly. More than once we surprised tactical commanders by being ready for rail operation before they were willing to give permission for the advance. Brigadier General Carl R. Gray, director general of the military railroads in the North African theater of operations, has reported that "at no time was the railroads' availability for hauling supplies more than three hours behind the most advanced tactical troops."

For security reasons I am unable to refer to our Military Railway Service units by official designation, with the exception of the 727th, which has been mentioned in official orders. I am at liberty to tell you, however, that among the forces available for engineering work, in addition to the engineering staff from headquarters and from the headquarters of a railway grand division which gives allegiance to the Atlantic Coast Line, were A company of the Santa Fe battalion, and the signal and communications sections of this same outfit, and from the 727th. Immediately after the close of the active Tunisian campaign, because of the arrival of additional units, there were made available the engineering staff of the New York Central, and the Great Northern grand division headquarters; A companies and signal sections of the Illinois Central, and the Texas & New Orleans, and the Missouri Pacific operating battalions.

Getting Organized in Africa

Because of the distances involved in the North African theater, it became apparent immediately that an advanced headquarters was necessary to co-ordinate the advanced Allied interest and provide immediate action on railway engineering problems arising from day to day as the campaign developed. For this reason, advanced headquarters of the director general, Military Railway Service, were set up at Constantine, under the command of a British officer, to handle planning for construction and general liaison between American, British and French Military Railway Services, French civilian railway employees, the army group commander in the combat zone, and the various base and lines of communication commanders, both American and British, in the communication zone.

The only notable exception to the planning and execution was in connection with the branch line between Tabarka and Mateur. In the early stages of the North Tunisian campaign, we had been advised that no effort was to be made to keep that particular branch in the service. However, rapidly changing events in the last few weeks of the campaign made it vital that this line be opened as far as possible in from the port of Tabarka, to augment the supply lines for the American Second Army Corps. To take care of this work, an outfit of United States engineers was quickly moved in and repaired the track structures from Tabarka as far as Nafsa. At the same time, the Military Railway Service mechanical and transportation troops from the American section repaired and placed in service the single locomotive which was at Tabarka, in time to perform valuable supply transport service in the critical days before the fall of Mateur. Subsequently, the remainder of the line—from Nafsa to Mateur—was repaired and placed in service by British and American Military Railway Service troops.

In the early stages of the operations in the North African theater, the area from Algiers east, including

This article is an abstract of an address to the meeting of the American Railway Engineering Association in Chicago on March 15.

Retiring German Troops Demolished South Span and Damaged Masonry Pier

the Algiers port, was largely one of British control, and from Algiers west, including the ports of Oran and Casablanca, under American control. A large amount of the depot construction in the area from Algiers east was initiated by the British services, while the depots west of Algiers were initiated by American services. With one or two exceptions, all of the depot track work, inclusive of Algiers and east to the combat zone, was constructed by British and American Military Railway Service troops, and with few exceptions, all of the depot trackage west of the Algiers region was constructed by United States Engineer troops.

Less Damage Than Expected

Requirements for the construction and rehabilitation of railways recovered from the enemy in the combat zone were much less than was expected and planned for. This was particularly true in the North Tunisian campaign, where the final collapse of enemy troops was so sudden that apparently there was not time to execute contemplated demolition plans. In most cases it was possible, with relatively light repairs, to utilize existing track facilities for railhead requirements. While enemy demolitions resulted in considerable damage to tracks and station facilities between Kasserine and Sousse, and while considerable minor damage to tracks and facilities was caused by craters, and occasionally by direct hits from artillery fire, for the most part the greatest damage was done by our own bombing forces prior to enemy retirement. This damage was particularly serious in the large port areas, such as Bizerte, Tunis and Sousse. As was expected, the principal damage to track and structures, which required the heaviest construction work, was to bridges. While obstruction to rail traffic resulting from enemy demolition of bridge structures was not nearly as great as was expected, nevertheless, throughout the campaign there were upwards of 65 bridge structures damaged or destroyed in the whole Tunisian area, ranging in length from 10 to 12-ft. openings up to openings of 250 ft. or more. Fortunately, the bulk of such damaged structures were small and subject to rapid repairs.

After final capitulation by the enemy, all remaining lines in Tunisia were opened rapidly for temporary operations, the first train being run into Tunis on the main line on May 13. By May 31, all lines were in service, except the spur from Graiba to Gabes, which was not needed at the time.

As soon as all lines needed for traffic in Tunisia were opened to operation, consideration had to be given to essential permanent repairs to replace the many temporary arrangements that had been made to hasten the opening of the lines. This was of paramount importance because, in several cases where large bridges were badly blasted, it had been necessary to construct low level detours without adequate drainage structures. In view of the fact that the rainy season could be expected to set in in earnest shortly after September 1, immediate steps were taken to carry out essential permanent repairs. A conference between the Allied Military Railway Service, French Military Railway Service, and civilian railway officials to determine priorities for an execution of the essential projects resulted in a division of the Tunisian railways into three reconstruction areas. All of the standard-gage lines, plus the narrow-gage line from Tunis as far south as Enfidaville, were set up as an area to be handled by the British section of the Allied Military Railway Service; the narrow-gage line from Tebessa to Tunis was allocated on the same basis to the French Military Railway Service, and all of the Tunisian railways south of Haidra and Enfidaville, to the American section of the Allied Military Railway Service.

Demolished Bridges

I shall not attempt to describe all of the bridge repairs accomplished by the Military Railway Service, but I shall review briefly two of the more important cases:

During March, 1943, a reconnaissance was made of the C.F.T. meter-gage line from Kasserine east toward Sousse, which developed that track damage was light, but that a number of bridges were badly demolished.

Bridge No. 4, five km. east of Kasserine, consisted of two 107-ft. through truss spans on masonry abutments and a masonry center pier, with a maximum height of 55 ft. above stream. Demolition accomplished by the Germans included the top of the pier blown off, causing the ends of the two spans to fall into the gap, and re-

sulting in injury to two panel lengths of each span and other minor damage. Because of the difficulties of repairs and the urgent need of the line, it was decided to construct a deviation (shoo-fly) parallel to the existing main track. Because of the high fill and the relatively rough country, this deviation was slightly more than one mile long, crossing the stream on a 35-ft. fill, with four timber-box culverts installed to handle stream-flow. This work was done by a United States army engineer unit, except that the grading was done by a British Railway Service grading unit using specialized grading equipment. Construction of the deviation was started on March 22, 1943, and it was completed for traffic on April 4.

As the timber-box culverts installed on the deviation were inadequate to take care of the flow during the wet season, and having already had one washout which delayed traffic to some extent, permanent repairs to the bridge were rushed, these consisting of replacing the top of the center pier, raising the two damaged trusses to normal position, and repairing the damaged steel, using steel salvaged from a similar structure damaged at Bridge 9. Bridge repairs and deviation maintenance were handled by the bridge and building platoon of A Company of the Missouri Pacific operating battalion and A company of the Texas & New Orleans operating battalion. The ground surrounding this bridge was heavily impregnated with anti-personnel mines, making repairs more difficult and extremely hazardous. Repairs were completed about September 10.

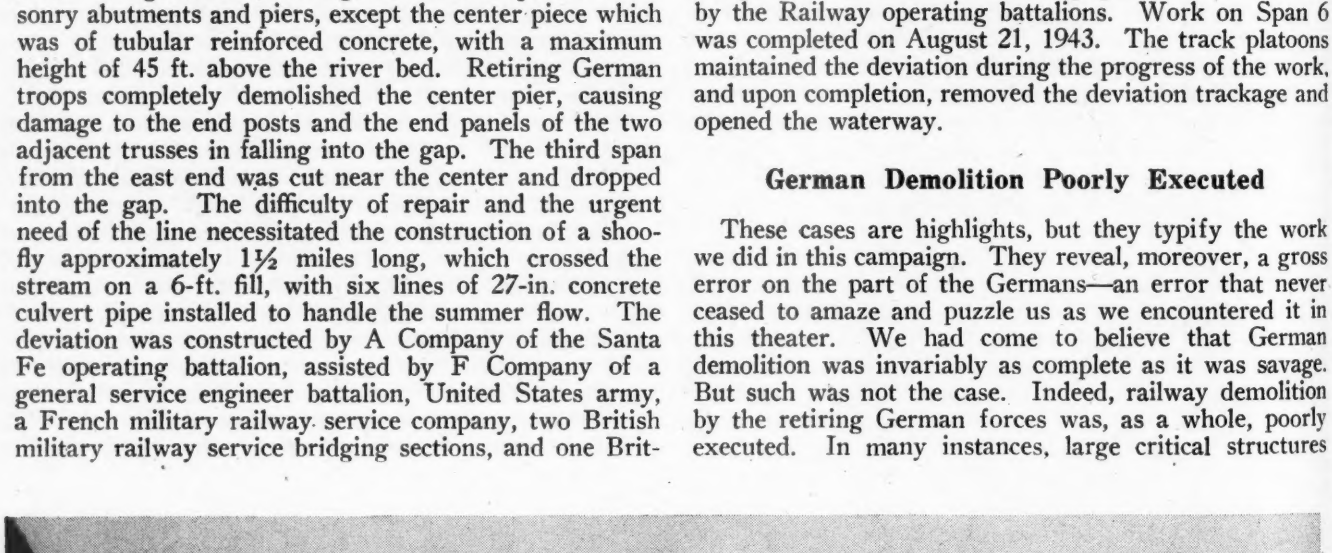
Bridge 12, 11 km. east of Hadjeb-El-Aioun, consisted of eight 123-ft. through truss steel spans on masonry abutments and piers, except the center piece which was of tubular reinforced concrete, with a maximum height of 45 ft. above the river bed. Retiring German troops completely demolished the center pier, causing damage to the end posts and the end panels of the two adjacent trusses in falling into the gap. The third span from the east end was cut near the center and dropped into the gap. The difficulty of repair and the urgent need of the line necessitated the construction of a shoo-fly approximately 1½ miles long, which crossed the stream on a 6-ft. fill, with six lines of 27-in. concrete culvert pipe installed to handle the summer flow. The deviation was constructed by A Company of the Santa Fe operating battalion, assisted by F Company of a general service engineer battalion, United States army, a French military railway service company, two British military railway service bridging sections, and one British military railway service grading section. Work was started on April 18 and the line was opened for service on May 1, 1943.

Unseasonable rains caused several washouts with resulting delay to traffic, and permanent repairs were rushed to prevent similar delays in the rainy season. On July 5, 1943, A companies of the Illinois Central and the Texas & New Orleans operating battalions started construction of a reinforced concrete pier 48 ft. high, and repair and replacement of the damaged steel in spans 4 and 5. Involved in this work were 150 cu. yd. of earth excavation, 30 cu. yd. of concrete removal, 260 cu. yd. of reinforced concrete in the new pier, the erection of 10 tons of steel, the driving of 1,000 rivets, and 100 lin. ft. of electric welding. Steel for repairs of Spans 4 and 5 was obtained from demolished Span 6. Work was completed on September 6, 1943.

The bridge and building platoon of the Santa Fe operating battalion was assigned the work of replacing Span 6, which was started on July 15. The broken span was lowered to the ground and dismantled. The new work consisted of placing an additional steel tower on the concrete foundation, and the launching and placing of two 65-ft. girder spans, all of which was done by the French military. Quantities involved in this work consisted of 57 cu. yd. of earth excavation, the driving of 38 foundation piles, the placing of 52 cu. yd. of concrete in tower foundation, the erection of 45 tons of steel, and the dismantling of approximately 30 tons of steel. The derrick poles and temporary trestle used during the installation of the spans were secured from the British troop store at Guelma. Other equipment was furnished by the Railway operating battalions. Work on Span 6 was completed on August 21, 1943. The track platoons maintained the deviation during the progress of the work, and upon completion, removed the deviation trackage and opened the waterway.

German Demolition Poorly Executed

These cases are highlights, but they typify the work we did in this campaign. They reveal, moreover, a gross error on the part of the Germans—an error that never ceased to amaze and puzzle us as we encountered it in this theater. We had come to believe that German demolition was invariably as complete as it was savage. But such was not the case. Indeed, railway demolition by the retiring German forces was, as a whole, poorly executed. In many instances, large critical structures



Typical of Enemy Destruction—Shoofly in Foreground

were left undamaged. If they had been demolished, the reopening of important lines would have been delayed for long and costly periods. On the other hand, we found on numerous occasions that bridges of minor importance had been blasted to smithereens by excessive and unjustified mining.

On many of the lines—the one running from Tabarka to Mateur is a notable example—it appeared that demolitions of railway bridges were aimed at rendering them useless for motor transport, and not at knocking out rail service. Certainly the enemy's railway demolitions were carried out in this theater under the direction of officers who had no railroad experience. The result was that the enemy accomplished no really effective blocking of essential rail lines, with the possible exception of the one between Haidra-Kasserine-Sousse and Kasserine-Gafsa.

Mines and Booby Traps a Dangerous Nuisance

While bridge demolitions by the enemy failed to measure up to the reputation of their perpetrators, his landmine activities caused the Military Railway Service no end of trouble. During the North African campaign, various units of the Military Railway Service were confronted with the problem of handling land mines with booby-trap connections, which had been planted with an extravagant hand along the railroad right of way, and all that they included—telegraph, telephone and signal lines, bridges, buildings, etc.

From our early encounters with the land mines, we learned to our sorrow that neither the British nor the American Military Railway Service troops had been trained adequately or cautioned sufficiently about detecting and removing these death-dealing instruments. Discovery and removal of these mines delayed repairs to railway communication lines, tracks and bridges, as workmen had to be on the lookout for them constantly. The latest type of mine detector was used for locating field mines and booby-trap connections. It was impossible, however, to use the mine detector between or close to the rails because of the magnetic effect of the steel on the instrument. However, the detector proved valuable in locating mines along the right of way and in and around buildings and bridges.

Around practically every major structure that was demolished, the terrain was sown thickly with anti-personnel mines, particular attention being paid to all paths and places where workmen would be likely to go in making repairs. Furthermore, in many of the territories, anti-personnel mines were sown thickly along the shoulders of railway embankments, particularly at points where the track had been damaged.

Before undertaking any repairs, it was necessary to obtain assistance from engineer mine clearance troops, at a time when they were extremely busy clearing areas for the combat troops. It was necessary at times to do a certain amount of mine clearance work with the railway troops. They, of course, did not have detection equipment and had to locate mines by probing with an ordinary pointed stick. On one section of track between Tabarka and Mateur, stick-probing turned up 64 anti-personnel mines from the shoulders of the railway embankment in one day.

On the Mateur-Tabarka line, one of the most heavily mined fields in North Africa was encountered in the vicinity of Jefna. German shrapnel mines were found every day along and near the track. The British lost four men, and numerous other units lost men almost daily, by reason of mines near the track. When the Santa Fe A Company came onto the Tabarka line, it brought detectors, and while it remained, no men were killed or injured.

The Santa Fe operating battalion signal section encountered numerous mines between Mateur and Beja and Ferryville. The A Company of the same outfit encountered many German S shrapnel, anti-tank and teller-mines on the Kasserine-Sousse line, particularly at Bridge 13. All approaches of this bridge were mined heavily, and while the area was supposed to have been cleared prior to the arrival of A Company, numerous mines were found and removed.

The signal section of the T. & N. O. operating battalion found several mines along the telephone line in the Akarit mine field while repairing the line between Sfax and Gabes. These dangerous devices were also found in many other areas, and now and then claimed lives.

During the Tunisian campaign, the method employed to detect track mines was to operate a special test train with the engine pushing cars loaded with rock or other heavy material, and deliberately exploding them. Where there are any great number of track mines, this is a slow and cumbersome method and might well delay the opening of a line considerably, because all trackage must be repaired before the train can proceed. Furthermore, there is no assurance after the test train is run that all track mines have been cleared, since delayed action mines used by the Germans operate on time mechanisms, delaying pressure explosions up to 21 days.

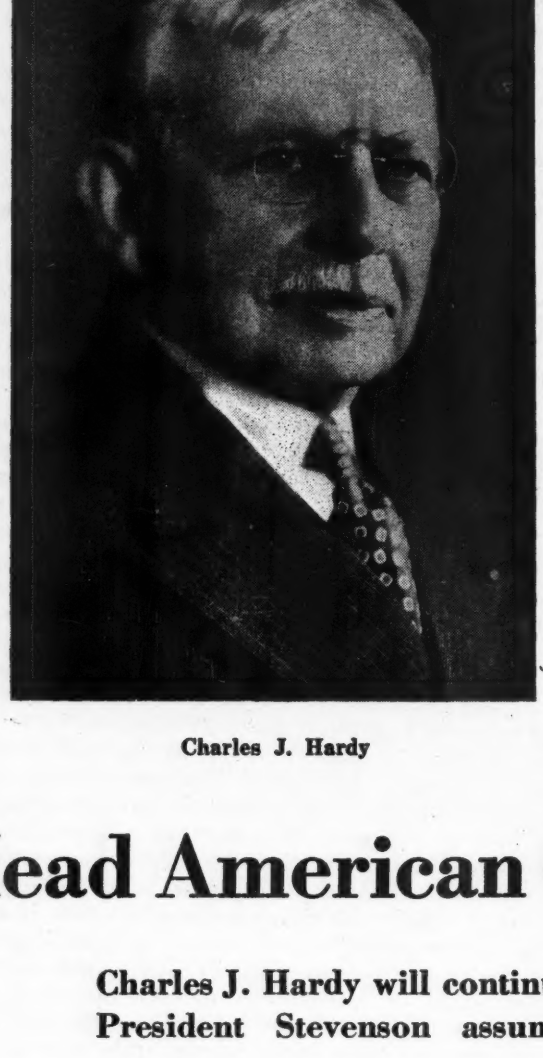
The question of track mines is being studied thoroughly at present. Our early experiences with mines led to the adoption of a program of thorough instruction to all railway troops on the detection and handling of anti-personnel mines. Selected officers were sent to army schools to obtain the latest information and instruction from American, British and French experts in mine warfare, and returned to their units to impart their new found knowledge to their men. The assistant engineer of maintenance of A Company of each operating battalion was appointed officer of mines for his unit, and arrangements are being made now to train four or five selected men from each A company in mine detection. These groups will be used to mop up mines in construction areas where engineer mine clearance troops are not available.

Conditions in Italy Are Much Tougher

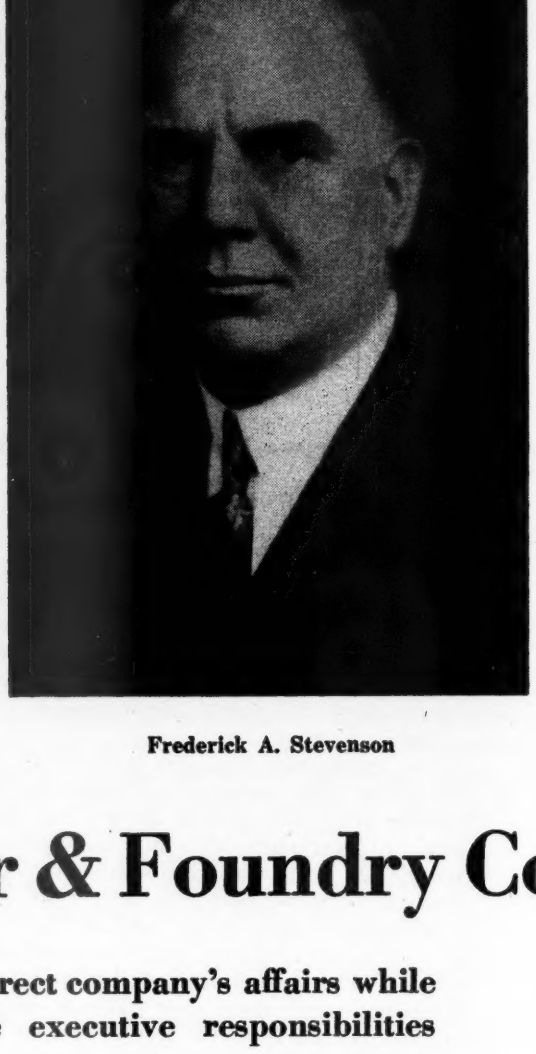
Our director general—General Gray—is held responsible for the "rehabilitation, technical development, and operation of all Italian State and privately-owned railways." There he has at his disposal, as he had in North Africa, American and British railway transportation troops, as well as some Italian transportation troops. Conditions are far different from those in North Africa—the enemy has become a great deal more thorough, more expert and more determined in his program of demolition and destruction.

But our Military Railway Service has yet to find an obstacle too difficult to surmount, if not in orthodox fashion, then by squeezing out of necessity whatever invention is required to reduce the insuperable to the negotiable.

You may be certain that wherever our battle lines move, the Military Railway Service will be in the thick of things, achieving new triumphs in rail building, maintenance, and operation. These men are good soldiers—as good soldiers as they are railroad men, and there are no better railroad men to be found.



Charles J. Hardy



Frederick A. Stevenson

Head American Car & Foundry Co.

Charles J. Hardy will continue to direct company's affairs while President Stevenson assumes the executive responsibilities

CHARLES J. HARDY, president of the American Car & Foundry Co., is relinquishing part of his duties as the chief executive of that company, becoming chairman of the board, in which capacity he will direct and supervise the policies, finances, and activities of the company. He will retain his various offices and directorates in the companies controlled by or affiliated with a. c. f. Frederick A. Stevenson, senior vice-president in charge of the company's operations, has been elected president to succeed Mr. Hardy.

Mr. Hardy received his education at the College of the City of New York and at Columbia University, from which latter institution he was graduated with a law degree. He was elected president of a. c. f. in March, 1933, having previously served as one of the company's directors and for more than twenty-five years as its general counsel. He piloted the affairs of the company through the depression years and the pre-war period in such fashion that, at the outbreak of war, because of the size, location and equipment of its various plants, the company was prepared to respond efficiently and promptly to the government's demands to turn out a greater amount of work than at any previous time in its history, in addition to taking care of its normal business of building freight and passenger equipment for domestic and foreign railroads. The activities of the company and its subsidiaries as prime producers of materials of warfare for the government—an almost infinite variety of articles—have since continued at an intensified rate. The company also has been called upon to produce, for army use both here and abroad, large numbers of different kinds of freight cars as well as cars designed to be used as hospitals and kitchens on wheels.

Frederick A. Stevenson, who takes over Mr. Hardy's duties as president of a. c. f., began his career as an apprentice in the company's Detroit, Mich., shops more than forty years ago. He subsequently held the positions of master mechanic, assistant general manager, assistant vice-president in charge of operations, vice-president and senior vice-president. His wide practical experience in the company's manufacturing activities served his company and country well during both world wars. During the first war he was in charge of the Detroit, Buffalo and Depew, N. Y., plants which were engaged in the production of artillery vehicles, shells, etc. Currently, he has been in charge of all engineering and production involved in a. c. f.'s large emergency program, at the same time continuing to give attention to the current and post-war program regarding railroad equipment. The department of research and development was under his jurisdiction as senior vice-president, and the studies and plans under way for modern, practical designs and construction of rail equipment will continue to receive his attention as president.

Postwar Goals—Rich but Not Easy

Must meet issues of competition, criticism and improved service, seeking greatest advances through research and new materials, equipment and methods

By C. E. Smith

Vice-President, New York, New Haven & Hartford

ONLY an optimist can speak of postwar conditions now. But a few months ago many were predicting an early end to the war; now sentiment seems to have changed, and it appears that we may have a tough job ahead of us. But that should not deter us from preparing for conditions in the postwar period, whenever they may be.

On June 24, 1940, in response to the inquiry, "Are the railroads ready to handle increased traffic in case of war?" I spoke at a luncheon meeting of the Chamber of Commerce of Bridgeport, Conn., under the title "Transportation Preparedness for National Emergency, Roll Call—Railroads—Ready." The performance of the railroads to date bears testimony to the correctness of that appraisal of their preparedness, notwithstanding gloomy forebodings and criticism. That performance has been due to the fine forward planning by and co-operation among shippers, passengers, and representatives of government and the railroads. The first challenge to engineering and maintenance officers, and, indeed, to every railroad employee, is to do everything possible to continue that co-operation. Nothing is more important.

Will Continue to Meet Demands

Notwithstanding one emergency after another in materials, equipment and manpower, engineering and maintenance officers have met successfully every challenge so far. In spite of many tight situations, the supply of maintenance materials has been so reasonably adequate that there are now no seriously critical shortages that cannot be cleared up within a relatively short time. Maintenance of way equipment promises to be more readily available in the not distant future. Restrictions on construction have already been ameliorated to some extent. The troublesome manpower situation now offers the most urgent challenge.

Our crosstie situation continues to be sick, and I was sorry to hear yesterday from Albert Mann that there may be more doctors prescribing for that sickness.* We hope they will discharge all the doctors and let the tie situation get well.

I am happy to have this opportunity to pay tribute to the excellent job that has been done by the Transportation Equipment Division of the War Production Board in enabling the railroads to secure the critical materials that have made possible their fine record of performance. Although we have not gotten all that we wanted, it is obvious that if we hadn't received enough, we couldn't have done the job.

When I told our chief engineer and engineer maintenance of way that I was to speak here today on the subject: The Challenge to Engineering and Maintenance Officers, they replied, "What challenge?" To me, that represents the true spirit of railroading. What challenge is there that we cannot meet?

It is much safer to predict now that the railroads will handle successfully all traffic offered for the remainder of the war than it was to predict four years ago that they could do what they have done. Barring exceptional circumstances not now anticipated, the railroads will complete successfully the greatest transportation job in history.

Many committees and organizations have been and continue to study postwar indications. The most flamboyant, possibly, of these was the now disbanded National Resources Planning Board, which published a series of monographs by individual writers on so many subjects that it appeared they desired to make the world over. Congress summarily terminated the existence of that Board several months ago and ordered its papers put away in the federal archives. Fortunately, therefore, its social and global plans are no longer in existence.

But there is still much talk of the continuation of deficit spending, full employment, federal housing and public works, and of relief and rehabilitation of the world. The latter reaches what appears to me to be ridiculous heights.

I cannot bring myself to believe that 130,000,000 people of the United States can so share their substance as to raise the standard of living of two billion people throughout the world. I prefer to believe that we will have sense enough to tend to our own affairs, if, indeed, other nations don't make us do just that; that we will stop deficit spending, balance our budget, begin to get out of debt, buying from other nations what they have to sell in exchange for what they want from us.

Sees Postwar II Similar to Postwar I

The older men here remember what happened after the last war. In 1919, while the soldiers were coming home, and while war contracts were being adjusted and business was converting to a peace-time basis, there was a slight hesitation, and then, in 1920, wild spending, as people all tried at once to catch up on the things they could not get during the war. Industries, as well, participated in this spending.

In 1920, there was work for everybody. Then suddenly the first wave of buying and construction was over, and we suffered the severe reaction of 1921 and 1922. Late in 1922 this sharp reaction was over, and we then enjoyed seven years—1923 to 1929—of good business, when no one thought of creating employment by unnecessary and uneconomic public works.

Out of all the studies that are now under way, there

This article is an abstract of an address at the meeting of the American Railway Engineering Association, in Chicago on March 16.

* The reference is to a statement contained in an address before the annual meeting of the A. R. E. A. on the previous day, by Mr. Mann, director, Transportation Equipment Division, War Production Board. Mr. Mann's address was abstracted in the *Railway Age* for March 25.

seems to be emerging a meeting of minds, to an extent at least, that this pattern will be repeated after this war—that there will be a setback immediately after the end of the war, to be followed by good business for an indefinite period. I agree.

The difficulty is to appraise the first setback. Will there be a wild year as in 1920? Will there be two terrible years like 1921 and 1922? Either will be bad. Another year like 1920 will, no doubt, again be assumed to be the first of a long period of increased prosperity, and nothing will be done to put on the brakes. And two years like 1921 and 1922 will indicate to the economic planners that business has definitely broken down, and may give rise to all kinds of unwise measures. Those will be years that will try our business and government leaders. Let us pray that we will pass through them sane and sound.

Will we meet conditions in the postwar period as successfully as we have met conditions during the war? That is now the important challenge. Of course, no one knows exactly what postwar conditions will be, but it seems to me that the railroads are in a better position than many other industries to appraise their future.

Even a casual study of railroading indicates that we are handling much borrowed traffic—civilian and war traffic, both passenger and freight—borrowed from automobiles, buses and trucks; borrowed from airlines; borrowed from waterways—inland, coastwise and intercoastal; borrowed from tankers and colliers. I can almost make a postwar estimate of railway traffic looking out of my office window at the passing freight trains. I can see much in those trains that is not going to be in them after the war. I can see passenger trains moving that are not going to move after the war.

Nearly all of this borrowed and war traffic will leave us shortly after the war, and we will handle such part of the then peace-time traffic as we can hold against competitive agencies of transportation. This borrowed and war traffic creates net income. For our success in handling it, we may expect plaudits unlimited. But plaudits, while satisfying to the ego, will not create revenue or net income in the postwar period.

Big Drop in Revenues Expected

No one knows just how serious the drop in revenues will be immediately after the war. I saw an estimate of 200 million dollars for a railroad with present war-time revenues of 300 million dollars. I do not need to tell you what a drop of 100 million dollars in revenue will mean to the staff of that railroad. It will require a terrific readjustment in expense.

The New Haven earned 140 million dollars in 1929 (we would be overhappy to settle for that continuously), its largest year prior to 1943. In 1943 we earned $180 million, and our revenue is now running still higher.

The Interstate Commerce Commission and the United States Supreme Court have said, in several reorganization cases, that war-time revenues cannot be considered as a basis for reorganization. I believe the New Haven is being reorganized on the basis of average earnings of about 87.5 million dollars, which was about our revenue in 1940. Other railroads have been ruled on the same basis. I just can't bring my mind to comprehend such a drop in revenues. Yet, we did go from 140 million in 1929 to about 65 million in 1933, and then up to about 87 million in 1940.

The conditions that will confront the railroads in connection with a sudden drop in revenues following the end of the war may not be different in kind, though different in degree, from the conditions that confronted them in 1930. Many will remember that in response to the plea of President Hoover, in November, 1929, industry endeavored to spend its way out of its financial infirmities. Before it was realized how serious those infirmities were, the railroads, in conformity with their pledge to the President, actually spent 872 million dollars in 1930 for additions and betterments, which was their largest expenditure in history, with the exception of 1923, when a little more than one billion was spent, and 1924 and 1926, when substantially the same amounts were spent as in 1930. While stripping themselves of cash, they were confronted with such further serious reductions in revenues as to compel many of them to resort to the Reconstruction Finance Corporation for financial assistance. Sorrowfully, when they had no more collateral to support loans, all too many of them had to resort to the bankruptcy courts. Let us hope that we will meet the challenge of decline in revenues more realistically and successfully next time.

Face Inequality of Opportunity

For many years prior to the present war, the railroads sought equality of opportunity without any great measure of success. Although the need for such equality will be important in the postwar period, it will not just happen. It must be striven for night and day, without surcease. That is the most important challenge confronting the railroads in the postwar period.

Already we hear rumblings of further vast expenditures for the uneconomic improvement of waterways that will widen the inequality of opportunity between the waterways and the railways. And there is no doubt that there will be a resurgence of building of improved highways, including many miles of express highways. Since I have been here, I find in a Chicago paper that a big freight terminal is projected here for forwarders, barges and air carriers—with government money. Another one: "O. D. T. Studies Plan for Truck Subsidy." The poor fellows can't weather the storm as the railroads are weathering it; they are apparently going to the government for a hand-out.

In the postwar period, larger and better planes will be available. Many air fields have been built and enlarged by the government. Funds have been voted by local and state governments for more and larger airports; communities will vie with each other in providing such facilities to meet or beat other cities. They will be tax-free and practically free of interest charges, and the government will, no doubt, continue to provide free weather and directional services.

Before the war there were no pipe lines extending from the Mid-Continent field to the Atlantic seaboard. Now the Southeastern and Plantation lines carry gasoline to several Southeastern states formerly served by rail. That traffic will not be available to the railroads. The Big Inch and Little Inch pipe lines, and other pipe lines built and relocated during the war, will carry oil products formerly handled by rail. These pipe lines and the increased number of large oil tankers that will be available after the war will constitute a surplus of oil transportation facilities that will result in sharp competition and low cost transportation of oil between the oil fields and consuming areas.

There is no present indication that these competitors of the railroads will be required to carry all costs incident to their operations, including taxes on facilities and interest on investments, as the railroads do. Thus, the past inequality of opportunity will not only continue, but may be expected to be accentuated in the postwar period.

An author of a National Resources Planning Board monograph recognized this unfairness and proposed, as a solution, that the government take over the railroad rights of way and extend their use to the railroads as the government extends the use of waterways, highways and airways to their competitors. It goes without saying that this would be a most undesirable solution, and fraught with almost insoluble problems. Surely there must be some better way to bring about that equality of opportunity that should be inherent in the American system of private initiative.

Some students of railroading are already suggesting that if subsidies to our competitors cannot be done away with, then railroads must be subsidized. We don't want to be "kept" persons. We want to lead, and we want our competitors to lead, self-reliant lives. But it must be admitted that we have not had much success in making other agencies of transportation pay their way. Our failure to date to sell this idea to the public and government indicates that the problem should be placed high on our docket of "Unfinished Business."

The railroads have done an excellent job during the war, with plenty of traffic, decreased competition, favorable revenues and satisfactory net income. Results have been the primary consideration. Costs have been secondary. Can we do as well in the postwar period when we must fight for traffic against intensified and subsidized competition, when revenues may not be so satisfactory, and when net income will depend upon our ability to produce it? Faster, safer, more dependable service will be required at less cost. That is the challenge. What are we going to do about it?

In the first place, the problem is having intensive study. The directors of the Association of American Railroads directed R. V. Fletcher, vice-president of the association, to organize a committee for the Study of Transportation. The committee as organized is composed of about 50 railroad officers, and has met in Chicago about every two months since July, 1942. Every phase of transportation is being studied by this committee. There are subcommittees on Waterway, Highway, Airway and Pipe Line Transportation, Taxation, Accounting, Statistics, Personnel, Public Relations, Legislation, Consolidation, Economics, Operation, Traffic, Engineering and Mechanical Research, etc.

The challenge to engineering and maintenance officers is not confined to their particular duties of providing and maintaining an adequate operating structure. It includes as well their obligation to represent the railroads in their contacts with others, so that those outside the railways may understand railroad problems better than they have in the past. One reason why we have not solved this problem of inequality in the past is because we have not sold our case to the public.

Must Answer Criticisms

We have been criticized for having a backward attitude on consolidation of railroads. I wonder how many of you know that tens of thousands of railroads have already been consolidated into 134 Class I railroads. I wonder how many of you know that, of these 134 Class I railroads, 20 control and handle 80 per cent of the traffic of this country. That story has not been told to the American public. If it had, we would get less criticism.

How many of you are able, in your neighborhoods, to get up in a public meeting and discuss an inequality such as exists at Boston? The Boston South Station is used by the Boston & Albany, a leased line of the New York Central, and by the New Haven and its leased lines. It is in direct competition with the East Boston airport. The State of Massachusetts has recently voted to issue bonds to the amount of about 5 million dollars to enlarge and improve that airport, on which federal, state and local Boston money has already been spent.

The railroads at the South Station pay $660,000 a year taxes, while there are no taxes on the airport—our competitor. The railroads pay $540,000 a year interest on bonds on the Boston South Station. No interest is charged our competitors for the Boston airport.

You all know of similar situations. It is your job, as well as the job of other railroad men, to tell this story.

Meet Changed Conditions with Machines

The trend toward shorter working hours is too strong to be misunderstood. It means that men will work less hours after the war than before, particularly if there is much unemployment. And this, in turn, means that more output must be achieved per man-hour, both by closer attention to programming and directing work, and by the more extensive use of labor-saving devices. Here is a broad field in which to work.

The present critical manpower situation has focussed attention on the amount of labor required for the handling of crossties. Although the crosstie supply situation has recently gone through a critical shortage period, deficiencies in tie installations are now due more to the manpower shortage than to the shortage of ties. This presents a challenge to cut the amount of labor required in handling crossties.

I carry the impression that the maintenance of way department has lagged behind the mechanical department in the use of modern machine tools. There are, of course, many good reasons for this, among them, the past surplus of common labor. Under modern social planning, some of that labor will not again be available; the cost of the labor that will be available will be much higher than before the war; and there will be a smaller pool of common labor to draw from. Under our present system of restricted immigration, we seem to be changing from a nation of general workers to a nation of specialized workers. In fact, there is quite a question as to who will perform common labor in future years. Of course, mechanical power is the answer.

A thought in this connection is the use of highway trucks for moving maintenance forces, particularly building, signal and painting forces; also, track and bridge forces on heavily traveled lines where much time is lost getting the use of tracks for motor cars and work trains. Many railroads have gone far in this direction and have secured many more man-hours of effective work thereby. Others have merely scratched the surface.

An interesting crane for universal use has been developed recently, with a combination of crawler treads and flanged wheels, which is capable of being operated both on and off the track. Six of these are on the New Haven, where they are used for ditching, handling materials with or without magnets, and laying rail; in fact, are being used for any type of work for which cranes are suitable.

Portable generators of 2,500 to 3,000 watts capacity, capable of being carried by two men, will be of major help, particularly to bridge and building men. These machines operate electric drills, saws, chipping hammers and other tools, effecting large savings in labor. Many are in use, but there is still a large field to be covered.

Portable gas-engine-powered grinders, to grind switch points and the overflow on stock rails and frogs, will be used in increasing numbers. The housing of switch points is being adopted by many roads, and by the use of portable gas-engine-operated milling machines, the work

of preparing the stock rails is being made comparatively simple.

Mechanized rail laying is practically a "must" in view of labor costs. This includes spike pullers, nut runners, adzing machines, cranes for handling the rail, and spike drivers—all gas-engine operated. Through the use of these machines, the amount of labor is reduced at least 40 per cent.

One of the recent developments which is creating much interest is the crawler compressor used to operate tie tampers. This compressor eliminates delays incident to moving the former type of compressor, and to laying long pipe lines.

The unit-type tie tamper is rapidly coming into increasing use. With this tamper, which is operated by one man, no compressor is required. Performance is comparable with that of the air guns, although unit tampers require more maintenance.

Rail end repair by arc or gas welding has been growing rapidly and nearly all roads now do this work as standard practice. There are two schools of thought relative to the work however—whether to repair the full head of the rail end, or simply to apply a central strip at the end. Those roads which have standardized on strip welding, and others which have carried out extensive experiments with this method, are very much in favor of the strip method.

Some types of equipment have not been available during the war. Much equipment in service has been wearing out. As a result, there should be quite a deferred demand for equipment at the end of the war. It will be important for engineering and maintenance officers to know what will be available then. We should not be satisfied to secure the designs that were available before the war. We must insist on new and improved devices, taking advantage of war developments.

Other Track Problems

One improvement that continues to attract my attention is continuously welded rail. There should be, and probably will be, a considerable expansion in the mileage of continuously welded rail in the years ahead. Properly handled, there seems to be no question that this will reduce maintenance costs and produce better riding track. A few railroads seem to be ready to experiment on this on a large scale.

This leads me to a question that shocked some when it first came to mind, and it will no doubt shock you. Can we burn out transverse fissures where indicated by the Detector car, or indeed, after the rail breaks, and weld the adjoining sections? If so, the maintenance of long stretches of welded rail would be greatly simplified and the cost reduced.

The rapid expansion in the use of Diesel locomotives, which will emancipate the track from the damage and destruction caused by unbalanced reciprocating parts of steam locomotives, will also encourage the extension of welded rail. Transverse fissures and other rail failures on the New Haven's four-track electrified line between New York and New Haven, Conn., where electric equipment without reciprocating parts or counterweights is operated, occur much less frequently than on its lines where steam locomotives are operated.

Many experiments are being carried out in connection with the anchoring of rail in track—both bolted and welded. Particular attention is being given to various methods of applying anticreepers, such as boxing ties in groups, staggering the anticreepers at receiving and opposite leaving ends, etc. Also, much study and experiment are being done with compression clips; some roads have made them standard.

Although equipment and track maintenance engineers have been discussing the relation of rolling equipment to track for many years, it is only recently, after some distressing experiences with locomotives and track, that a joint committee of the Mechanical and Engineering divisions of the Association of American Railroads has gone to work seriously on this situation. This problem must be solved if we are to solve many of the other problems dependent upon it.

More Research Required

To meet the challenge of the postwar period properly and adequately will require much more research than in the past. While I am continually amazed at how much we know, I am equally amazed at how much we don't know about the materials and equipment we use, and how they behave.

When the Association of American Railroads was organized in 1934, provision was made for vice-presidents of five departments—Law, Accounting, Traffic, Operating and Research. The first four departments were organized and are headed by vice-presidents. The Research vice-president has never been appointed. As an important step to change this situation, the Board of Directors of the association, several months ago, authorized the appointment of a Director of Technical Research. Furthermore, it has authorized the employment of Dr. Clyde Williams, Director of The Battelle Memorial Institute, at Columbus, Ohio, in a consulting and advisory capacity to the association, in an effort to appraise the present situation, ascertain the facilities available, assist in securing the services of a competent director, and otherwise put this department of the association's activities on a sound basis.

Some of the engineering problems that challenge us follow: Loss of steel through corrosive action; synthetic and metallic protective coatings; cathodic electric protection against corrosion; pre-molded cement, gypsum and other materials; glass in its various forms, from fiber insulation to blocks; the quick seasoning of green timber; combined fire protection and preservative treatment of wood; the use of laminated wood in lieu of large timbers; electronics and radio in signalling; synthetic bristles for paint and cleaning brushes; and plastics and alloy steels in their various manifestations.

Thousands, and probably tens of thousands, of scholars and technicians are at work in our research laboratories, colleges, industries and elsewhere prosecuting research industriously in what are sometimes referred to as "Hush-Hush" projects—projects that are strictly confidential as related to the war. Many rumors have come from such studies that revolutionary developments may be expected that will be available for general use after the war. It is important that we learn of these developments early and avail ourselves of them to the maximum extent to which they will contribute to safety, reliability and economy.

There seems to be no doubt that after the war the railroads will have a broad field and spectacular opportunities for improvements in materials, devices and methods. What are we going to do about it? If we go on complacently after the war doing as we have done in the past, we will not meet the challenge offered to improve our plant so that better, faster, safer and more dependable service can be rendered at less cost, and without loss. The challenge and opportunities are there. I am sure that they will be met.

Figures Show Wage Trend Dangers

Correlation study reveals total wages are reduced by wage rate rise—More business by employer only route to more money for labor—Doubters are invited to check calculations

THE prevailing wage policy of organized labor—and of the railway unions in particular—has been challenged, with strong evidence of injurious effects to the well-being of labor itself and to society as a whole, in a statistical study of wage rates, employment and earnings of railway labor, by John L. McDougall, an eminent Canadian economist. His findings are summarized in a 34-page pamphlet entitled "Railway Wage-Rates, Employment and Pay."*

Asks That Others Check His Figuring

The author's method is that of correlation, and he invites those not "allergic to statistics" to put the procedure by which he has arrived at his arresting conclusions to a personal test. "There is no reason," he urges, "why a reader who is interested should not make graphs and scatter diagrams . . . and I am sure that any reader who does so will find his interest whetted and his understanding of these essentially simple techniques grow with each trial." To facilitate such checking of his procedure, he offers "gratis and gladly," to those who request it, a mimeographed set of his complete tables, to supplement the figures presented in his pamphlet.

The analysis is based on wage figures of the railways of Canada, the United States and Britain. The data from all three countries point to similar conclusions—and the author suspects that the findings would be true of organized labor generally. Railway wages were chosen for the study because available information on them is more complete and extends over a longer period than is the case in any other industry.

The central and most significant finding of this statistical analysis is the following:

"The number of employees varies directly with operating revenues and inversely with the average rate of wages per hour. The laborer is a citizen and not a commodity; but his labor is like any other commodity bought for a price; when the price goes up the quantity demanded goes down."

Mr. McDougal's computations indicate that the *aggregate wages* paid to railway employees are *determined* by operating revenues; and that, the higher the wage rate, the fewer jobs will be available. But higher wages do not mean simply that a given sum of money is divided among fewer people—"increases in the rates of wages per hour [also] depress the total wages paid all employees."

The dependence of aggregate wage payments upon operating revenues is found to be so complete that, given a figure for operating revenues, aggregate wage payments can be predicted with a very close approach to perfection. Similarly, total wage payments have such a close (inverse) correlation with hourly wage rates that, given an increase in cents per hour, the volume of the decline in employment may be predicted with a high degree of reliability. The author concludes as follows:

"What do the railway unions really want? It is easy enough to say that they want full employment, large payrolls and high earnings per year. Don't we all? The crucial question is this—since we can't have everything we want, since this is a world in which the niggardliness of nature sets an upper limit which society is only able to inch back slowly by thought and labor and capital investment, which of the three objectives stands first?

"The uncritical assumption would be that railway workers would aim at maximizing their total income. Were that so, their interest would coincide with that of the whole community. They would not only have, they would deserve, general public support.

"But this brings into the spotlight the whole complex of rules determining the distribution of employment and pay in railway service. By the will of the men themselves, the right to work is determined by seniority. Those at the top of the list have work as long as the railway runs. Those in the middle of the list usually have it. Those at the bottom of the list are almost certain to face long periods of unemployment if, for any reason, railway employment is contracting as rapidly as the most senior employees pass off the list of employables and on to the pension rolls. It is a system which was adopted before 1900 as a protection against discrimination by management and not as a device for distributing work at all! But after 1920, when railway employment began to contract, it became a most powerful engine for concentrating all the unemployment upon the junior men, who were, as a class, the least able to bear it.

Is "Seniority" Helpful to Labor as a Whole?

"It is at this point that the split in economic interest is sharpest. As has been seen, the higher the rate of pay per hour, the higher the average earnings per year, and the lower the volume of employment. The senior men have naturally the preponderant power in the union. The junior men are always in the minority and lose their votes altogether once they go out of work and cease to pay their dues. If the senior men consult their own private economic interests only, there is no upper limit to the rate of pay which they might demand. They are in a perfect position. If they can get a higher rate of pay per hour, they get the enlarged annual earnings while the junior men absorb the unemployment. Increases in wages of senior men also increase the amounts of their pensions, as these are based on average earnings over the final years of service. The upper limit of wage rates, if any, is set by the resistance of railway management, or by the ire of a public which perceives that it is paying the shot, partly in high railway rates and fares, and partly in a reduced standard of service.

"Generally speaking, the public may be counted upon not to object. It will presume that high wages are good,

* Published by Longmans, Green & Co., 215 Victoria st., Toronto 1, Ont. Price, 50 cents.

as such. It will not see the secondary consequences on service, on costs and on the volume of employment. And lacking any firm public support, the opposition of management can be over-ridden by the threat to strike.

"This is not an attack upon the unions as such, nor upon the senior men in them. We all have a great capacity for acquiescing in situations which put money into our pockets, and they are no exception. It is not contended that this has been a coldly logical procedure, but if it had been, the result would be virtually the same. For under the conditions of 1926-41 in Canada, an increase of 3 cents an hour in hourly rates did more to increase the average yearly earnings than an increase of $100 million in operating revenues. It is true that it threw 6,600 men out of work; but it decreased the total wages paid hardly at all. And in any case, the unions could go a long way towards controlling the hourly rates; they felt themselves almost powerless over the revenues.

"This is a problem in monopoly pricing. The initial consequence is to exploit the junior men for the benefit of their seniors. The secondary consequences are to make it harder for the railways to give a desirable service and to meet the competition of other industries. The results are shown in shrinking employment and a loss of competitive power. But the unions have never been required to face the question squarely and state their objective precisely. Do they want ever-rising wages for an ever-shrinking body of employees, or do they want to remain in balance with the rest of the community, to work for general prosperity and an enlargement of the total wage bill?

"The choice may demand a certain break with past habits of easy (and fallacious) thinking. But ultimately it is a question which they cannot dodge. As monopolists, they can achieve their aims only by accepting that control which every monopolist must accept—they can get their price per unit only by a complete willingness to limit the amount offered to what public can or will take at that price. Santa Claus died a long time ago."

Pere Marquette Devises Visual Training Plan For Employees

Trainmaster Reed Explaining the Proper Receipt of Train Orders

FACING the increasing difficulty of teaching proper rules observance in these days when there are so many new employees, the Pere Marquette has devised a plan that is producing surprisingly good results. In the development of this plan, the road arranged with a commercial photographer to prepare a series of Kodachrome slides, showing signals, interlocking plants, trains, train orders, etc., which are shown at meetings with the employees, following which discussion of the problems involved is invited. The plan is found to be much more effective than lectures by reason of the fact that the scenes shown do not illustrate generalities or hypothetical cases but are photographs taken of actual facilities on the division on which the men attending the meeting are employed, while the train orders shown on the screen are reproductions of actual train orders issued to cover the movement of trains on the division where the film is being shown. Thus, the lessons taught are far more effective and lasting, as they deal with actual conditions which the men encounter every day.

Attendance at the meetings is entirely voluntary. Moreover, in order to promote free discussion, they are entirely informal. The superintendent or the trainmaster conducts an informal lecture as the slides are being shown, but the employees are encouraged to interrupt at any time to ask questions to clarify any point. Moreover, they do ask questions frequently and there has never been a showing without an animated and illuminating discussion of several of the points being brought up. The meetings are held in an uptown hotel wherever possible and both old and new employees attend in large numbers.

Frequent meetings are held so that all employees have a chance to attend and also to permit small enough groups at each meeting so that anyone wishing to ask questions has plenty of time to do so. At the series of 48 meetings

(*Continued on page 684*)

J. Monroe Johnson Heads O.D.T.

President Roosevelt appoints Interstate Commerce Commissioner to succeed the late Joseph B. Eastman—Will remain on commission, retaining supervision over Bureau of Service

PRESIDENT ROOSEVELT on April 4 appointed Interstate Commerce Commissioner J. Monroe Johnson to the directorship of the Office of Defense Transportation, succeeding the late Joseph B. Eastman. Colonel Johnson will remain a member of the commission with relief from routine duties, but he will continue to serve on Division 3 and retain supervision of the Bureau of Service. His role with the commission will thus be larger than was Mr. Eastman's who functioned under leave-of-absence arrangements which brought him into commission deliberations only when his vote was necessary to break a tie.

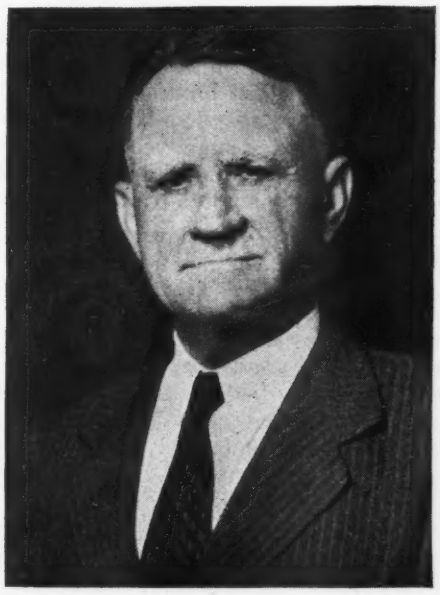
Brigadier General Charles D. Young has been acting director of O. D. T. since Mr. Eastman's death; and Colonel Johnson immediately expressed the hope that General Young would continue in the position of deputy director which he held under Mr. Eastman. General Young stated on April 5 that he expected to do so. Colonel Johnson further said that he anticipates that O. D. T. will continue to function much the same as in the past. He expects the country's transportation agencies to continue meeting the wartime demands on them, although he added what he said was "nothing new"—that the manpower situation is the "critical" problem.

Colonel Johnson's name had been the most prominent of those mentioned as possible successors to Mr. Eastman. He has been a member of the commission since June, 1940, and his supervision of the Bureau of Service's work has kept him in close touch with the wartime operating problems of the railroads. Since the beginning of the war he has been outspoken in his demands that the carriers be allotted sufficient materials and left with adequate manpower to perform their vital roles. Recently he asserted before a Congressional committee that every railroad man in military service should be restored to the railroads; for "one good railroad man on a railroad is worth a thousand railroad men in the Army."

A Champion of Transport's Importance

Also, Colonel Johnson has participated with representatives of the railroads and armed services in telling the story of wartime railroading on many radio programs. And he has worked with shipper organizations in the interest of more efficient utilization of equipment, insuring, as he recently put it, that "there would be no storage in railroad cars." His view of the threatened railroad strike was that it would have been "worse than treason"; for "I don't think we have a military agency more important than the railroads—we would lose on all fronts without them."

Before being appointed to the commission, Colonel Johnson was Assistant Secretary of Commerce, and during the latter part of that service he had supervision over the government-owned Inland Waterways Corporation, which was transferred in 1939 from the War Department



J. Monroe Johnson

to the Department of Commerce. Among his other activities in connection with I. W. C., Colonel Johnson ousted the late Major General T. Q. Ashburn who had been the Corporation's chairman and president since its organization in 1924.

Colonel Johnson, a civil engineer, was born in Marion, S. C., May 5, 1878, and received his education in the Marion public schools and at the University of South Carolina and Furman University. He volunteered for service in the Spanish American War and served with the rank of sergeant in the First South Carolina Volunteer Battery of Heavy Artillery.

In 1898 he opened an office for the practice of civil engineering at Marion, which he has continuously maintained since. From 1911 to 1914, he was chairman and chief engineer of the Marion County Highway Commission for the expenditure of the first road bond issue in the state, which resulted in the construction of 75 miles of roads and 27 bridges.

In 1916, at the request of the governor of South Carolina, Colonel Johnson recruited a company of military engineers that served on the Mexican border. Also in 1916, he was appointed by the governor and served as the first chairman of the newly-created South Carolina State Highway Commission, from which position he resigned to enter World War I.

In 1917 he was commissioned by the governor of South Carolina to recruit a battalion of military engineers for overseas service with the Rainbow Division. This battalion was federally accepted and became the First Battalion, 117th Engineers, Rainbow Division. He served as its major until April, 1918, and then became

lieutenant colonel of the regiment. His promotion to colonel came in October of that year, but he had meanwhile, in September, assumed command of the regiment and became chief engineer of the Rainbow Division.

Colonel Johnson remained with the regiment and division from organization to demobilization, participating in all of their campaigns. He was awarded a Distinguished Service Medal by the United States; the Verdun Medal and Legion of Honor by France; and the Order of Leopold II by Belgium.

Extensive Engineering Experience

Upon his return, he resumed the practice of civil engineering at Marion as a member of the firm of Johnson & Roberts. During Colonel Johnson's active engineering career, his specialties were timber, drainage, roads, bridges, and utilities. For many years before he came to Washington, his profession was largely consulting engineer. In 1928 he was appointed boundary commissioner for South Carolina.

Colonel Johnson was appointed assistant secretary of commerce by President Roosevelt in June, 1935, and served in that capacity until June, 1940, at which time he assumed his duties as Interstate Commerce Commissioner, having been nominated thereto by President Roosevelt on May 2, 1940, to fill the unexpired term of Marion M. Caskie, resigned. He was reappointed to succeed himself on December 11, 1941, and was confirmed by the Senate January 7, 1942, for a full term expiring December 31, 1948.

Shortly after Colonel Johnson took up his duties with the commission, he was placed in charge of the Bureau of Service, the bureau having charge of the use, control, supply, movement, distribution, exchange, interchange and return of locomotives, cars and other vehicles used in the transportation of property. At present the bureau is engaged in administering the commission's wartime emergency powers.

The colonel is a member of the American Society of Civil Engineers, and the Society of American Military Engineers, of which he was national president in 1940, and at present is a member of its executive committee. He is also a charter member of the American Legion.

Pere Marquette Devises Visual Training Plan for Employees

(*Continued from page 682*)

recently held at Grand Rapids, Mich., more than 1,200 employees attended. This included a large percentage of employees who attended more than one session. During the meetings, coffee and sandwiches are served and further discussion of rules generally takes place.

The Program

Some 300 slides are now available on various subjects pertaining to train operation and train rules. They are not all shown at any one meeting, and they are divided as to subjects so that almost any desired operation may be stressed, depending upon local circumstances. The meeting is opened by a recorded talk from R. J. Bowman, president of the railway, which summarizes the aim of the sessions as follows:

"We have streamlined our methods of instruction. Attendance is by way of invitation, limited to a group small enough in number to insure an active participation on the part of all. This program is to cover every phase of train and yard movements. Your presence at this class is a proof of your interest in the safe operation of this property. We are anxious to make the fullest contribution to the end that you may know and thoroughly understand the operating rules.

"This business of railroading, in which we are engaged, by its very nature imposes serious responsibility on the officers and employees. The operating rules, together with the time table and special instructions contained therein, are essentially a prime necessity and the correct understanding and positive observation of them is imperative if we are to transport safely the passengers who entrust their lives to us when they board our passenger trains—and if we are to be successful in handling the thousands of carloads of important and valuable freight entrusted to our care. The operating officers are striving to improve our safety record to guard against accidents and the greatest success of which we are capable cannot be achieved without the wholehearted support and sustained effort of every man in train, engine and yard service.

An Invitation to Participate

"I am, therefore, appealing to you to take an active part in this session. Opportunity will be afforded you to ask questions or make statements designed to clarify any rule. Please consider yourself an important part in this program and feel a sense of obligation to report to the proper officer any practice or method that comes to your memory now, or that you observe at any future time, that you consider a violation of the rules or contrary to safe operation. If this suggestion is followed, we can be sure that, by combining our efforts, every unsafe condition and practice will be eradicated."

The slides cover a wide range of subjects, such as the necessity for each employee to watch passing trains at every opportunity to detect any abnormal conditions that might cause accidents; proper markers and classification lights to identify trains; speed restrictions and many other subjects of a like nature. On this particular division there is both centralized traffic control and automatic block signal territory and the meaning of every possible signal indication is reviewed by means of the colored slides, while the difference between permissive and positive signals is clearly brought out.

A series of slides is also shown indicating the proper methods to use in head-end and rear-end flagging. The correct use of fusees and their meaning in double-track territory are clearly depicted. The proper procedures in taking sidings, moving through spring switches, and through interlocking plants are also shown.

All types of right-of-way signs on the divisions are shown, as well as the proper handling of train order loops, the meaning of train order signals, and the different course of action necessary in receiving a "19" or a "31" order. Following this, reproduction of actual train orders are flashed on the screen. These are selected to bring out all the important points that train and engine crews must know in order to operate safely.

This system of instruction was worked out under the direction of C. J. Milliken, superintendent of the Chicago-Petoskey division of the P. M. So far, the showings have been confined to this division, but they have been so successful that further showings, similarly localized as to each division, are planned for the entire railway.

What Electric Operation Is Doing*

The Pennsylvania's experience with war-time traffic serves to show how electric motive power can be used to best advantage

By J. V. B. Duer

Assistant to Vice-President, Operation, Pennsylvania

THE Pennsylvania's most recent electrification project was originated in 1928. At that time there was considerable electrification around Philadelphia, Pa., and the first step of the project was an extension of that electrification. Shortly after that, work was commenced to extend the electric operation from New York to Philadelphia, Pa., and Washington, D. C., and construction was started in 1929 and completed in 1938.

At that time the New York terminal was electrically operated, with a change to steam at Manhattan Transfer, N. J. There was under consideration a new passenger station at Newark, N. J., where electrical operation of trains would be a distinct benefit.

Further than that a request was under consideration from the city of Baltimore, Md., to eliminate the operation of trains by steam through that city and to institute electric operation at that point. In addition, there was a rather extensive terminal improvement in process of construction in Philadelphia, in which electric operation would be a very great advantage over steam operation.

The train schedules between New York and Washington, and between New York and Philadelphia, required shortening up, and there was some need for heavier trains to handle the increasing volume of business.

A consideration of all of those conditions, added to the fact that some of the heaviest traffic in the United States moved through the area in question, led the railroad to decide upon the electrification of this important section. The inclusion of the Harrisburg, Pa., electrification, of course, led to an improvement in the schedules of trains to and from the west.

The program was completed in 1938, and has materially assisted in the handling of the heavy increase of business that has taken place since that time.

When the plans were made, the power supply and distribution system were laid out to handle normal business traffic density with provision for some additional growth. The trolley construction, however, was laid out so that the heaviest train movement on any track could be handled by the capacity available in the trolley wire. It is easy to see that the other facilities, such as the power supply, the substations, and the transmission circuits, could be added to without interfering with train operation; whereas any change in the overhead trolley circuits would result in considerable interference with train movements, because of the necessity of occupying the tracks with work trains while it was being done.

Growth of Load

The number of motive power units, that is, electric cars and locomotives, were provided with the idea of handling normal business plus a reasonable spare capacity to take care of additional growth. It might be interesting to refer back for a moment to the figures of the load that existed in 1939. The year 1939 with us happened to be a pretty average year, that is, for the system as a whole. The gross ton miles and the passenger miles were about the average of the period from 1929 to 1939.

In 1939 the average load was about 100,000 kw. By that I mean that for every hour of the year we used an average of 100,000 kw. In the morning and in the evening of each day there was a peak for about an hour, in which we used 144,000 kw. That represents a pretty fair picture of the density of the traffic that was moving in that area.

To handle that traffic there were installed on the locomotives and cars about 900,000 kw. of motor capacity, which corresponds roughly with the horsepower at the rail, and to supply the current for the movement of the trains there was power plant capacity of 278,000 kw., so that the capacity available on the locomotives and cars was roughly three times or three and a half times the generating capacity available in the power stations to move that traffic, both of them including the spare units.

Meeting a Traffic Increase

As the traffic increased in 1940 and 1941, it became necessary to determine just what ought to be done; in other words, whether to build up power plant capacity and electric motor capacity, or whether to increase the number of steam locomotives by modern steam power which could be used to handle the increased business in the non-electrified territory, and move some of the steam power into the electrified territory to help out on the electrification. To follow the latter practice had the advantage that it would tend to equip the railroad with modern steam power, and would not build up large surpluses of electric locomotives and power plant facilities that for many years after the war might not be used. That practice was followed, and the acquisition of electric locomotives and steam locomotives was carefully balanced.

The net result was that in 1943 the electrically handled traffic had increased to the point where the average kilowatts per hour were 144,000, about the same as the peak in 1939, and the peak had been increased to 200,000 for one hour in the morning and in the evening of each day. The continuous capacity on the electric cars and locomotives had been increased from 900,000 to about 1,100,000.

In addition, some increase had been made in the generating capacity at the power houses, which raised it from 278,000 to 306,000 kw., maintaining about the same

* Abstract of a paper presented before the New York Railroad Club at New York, March 16, 1944.

relationship of motive power on the trains to generating capacity that had existed in 1939.

In 1939 it was 30 per cent, that is, the power plant capacity was 30 per cent, and in 1943 it was about 27 per cent of the capacity installed on the cars and locomotives.

That is a rather important thing to bear in mind, since one of the things that electrification produces, if you have the traffic to handle, is a reduction of the prime mover capacity in proportion to the locomotive capacity, because instead of having each motive power unit equipped with a generating capacity equivalent to the horsepower at the rail, the necessity to generate that much capacity is materially reduced by the ability to move the electric current around from one place to another as it is needed in the trolley lines.

In November, 1943, which was the heaviest peak experienced up to the end of that year, the average 24-hour load was 150,000 kw. That was slightly above the average for the year, and the peak was 235,000.

Steam Power for Peak Loads

To go back for a moment to 1939, when the electrification was completed, it released from active service a reasonably large number of steam locomotives which were in good condition and had been used in the same territory immediately before the electrification. Instead of buying an excessive number of electric locomotives to handle the annual peaks at Christmas, and during October and November, these steam locomotives were kept available and placed in service when needed, and thus supplemented the electric operation. In 1939 the heaviest peak was in December, when forty-two steam locomotives were used; and in November, 1943, the heaviest peak experienced up to that time occurred, and eighty-eight steam locomotives were used.

From that it may be seen that we were able, by a careful balancing of the purchase of steam and electric locomotives, to do two things; first, to keep the electric locomotives and electric generating facilities from becoming too large in case of a reduction in business later, which, of course, is quite probable, and, in addition to that, to supplement our steam power with modern locomotives which can be used to good advantage in later years when the load decreases and the older locomotives are stored.

The fundamentals of railway electrification have been reviewed very frequently and you are probably all familiar with them, because there is nothing peculiar or mysterious about them, but before discussing them I want to emphasize that in pointing out the advantages of electrification, I am thoroughly mindful of the fact that the steam locomotive, as far as the Pennsylvania is concerned, is an excellent means of moving trains. It is not obsolete by any means, nor is there any possibility, in my opinion, of its becoming obsolete.

Advantages of Electrification

In stressing the advantages of electrification, I want again to emphasize that those advantages occur only when electric operation is properly and economically applied. This condition exists where there is a requirement for expeditious movement of a large number of heavy trains. Of course, it also applies to terminals and tunnel operation, and all of those conditions are prevalent in the electrified territory on the Pennsylvania. On an electrified railroad, a pretty good indication of that economic application is the load factor, that is the ratio which the average loads throughout the year bear to the peak loads occurring morning and evening, not the annual peak loads but the regular peak loads; the ratio between these figures which I have quoted, from 1939 of 100,000 kw. for the average, and 144,000 for the peak is 71 per cent; in other words, the load factor is 71 per cent. This means that of the facilities provided for peaks, 71 per cent are in use practically continuously throughout the year.

In 1943, with additional electric locomotives and power facilities and with the increase in business the load factor had increased to 72 per cent, so it may be seen again that it has been rather carefully balanced by control of the number of additional motive power units that were supplied of either steam or electric type.

As I have said, the capacity which the generators and the power houses bear to the capacity of the motors on the trains is a very important factor, and in 1939 it was about 30 per cent and in 1943 about 27 per cent. An even more important factor is the ratio which the generating capacity bears to the short time capacity of the motors on the trains, and that is about 15 per cent.

The reason it is an important factor is that in our electrified territory we were able to shorten our passenger schedules an average of about an hour and our freight schedules about two hours, without any increase in the maximum speed of freight trains and with a very minor increase in the maximum speed of passenger trains, and it was done in this way:

Use of Short-Time Overload Capacity

The electric motor when operating a train over a rolling profile, that is, uphill and down, has the ability to maintain uniform speed by drawing temporarily from the trolley large quantities of current on the up grades because it has this rather high temporary overload rating. It can also accelerate a train out of stations and at other stops rapidly because of the same characteristic, which means that you can increase average speed without increasing maximum speed, because the same speed can be maintained uphill, by taking advantage of the overload capacity inherent in the motors.

With freight trains two things affect the improvement of schedule. First, the electric locomotive is a more reliable motive power unit, and the freight trains can be run among the passenger trains with greater assurance of non-interference with passenger trains. Second, the electric locomotive lends itself to a rather high average speed in momentum operation of trains. That is, when an electric locomotive is loaded to go out over a rolling profile, it is not supposed to stop. It starts, it goes, and it runs uphill and down, and although it loses some speed going uphill, it passes over the top at a higher speed that a steam locomotive does, because it uses excess power available in the trolley and overload capacity available in the motors to arrive at the top of the hill at a higher speed than would be the case if it carried its generating equipment with it.

Of course, it should not be stopped, and the railroad organization must be trained so that it is not stopped, because if it is, another engine must help it to start, if it should be on an adverse grade when stopped.

To illustrate the practical benefits of that characteristic of electric operation, in addition to the shortening of schedules, it is not unusual on the Pennsylvania to get 70,000 gross ton miles per freight train hour as compared with 60,000 gross ton miles per freight train hour with a steam locomotive in equivalent service.

There has been a good deal said about economies

of electrification, and I am going to disappoint you by telling you that I am not going to talk about that, except to say that economies are not as important as the other benefits which are the significant matters.

On the Pennsylvania, under normal conditions, the economies are substantially above the carrying charges on the cost of the project and, of course, those economies increase with heavy traffic and decrease with light traffic. That is one reason why it is a subject that you cannot talk about intelligently unless you know exactly what the conditions are, and over what period of time and what portion of the business cycle you are talking about.

Detentions and Availability

In 1939, when the service was changed over to electric operation, the electric locomotives averaged about seven minutes detention per 10,000 locomotive miles as compared with twenty-five minutes detention per 10,000 locomotive miles with the steam locomotives that they replaced. That, of course, had a very substantial effect in improving the schedules and the service.

Another subject that is frequently emphasized about electric locomotives is their availability. There is no question that the electric locomotive is a more available unit than the steam locomotive. Naturally, it has no power plant to carry around with it, and consequently its equipment can be maintained in a shorter number of hours per year than is true with a unit which has a power plant in it, but in most cases where electrification has been applied to a railroad, the electric locomotives are considerably larger than the steam locomotives which they replaced, and have the ability of making a better average speed without increase in maximum speed. Consequently it is a rather difficult question to determine, when you pool all your units and use them to move trains as the public requires the service, just how much the availability factor enters into the picture, although we know that it does enter into it.

On the Pennsylvania, in similar service, electric locomotives make about 25 per cent more annual mileage than do steam locomotives.

There is another matter in connection with electrification that is really one of the most important, and has received a great deal of attention, that is, the training of the personnel. When a railroad determines to electrify a large part of its service, it is putting into the hands of the managerial and operating personnel a new tool which has a rather different set of advantages from the one to which they have been accustomed. Previously, we had had a good deal of experience with electric operation in Philadelphia and New York.

In 1919 a program was started of educating the mechanical officers of the railroad, the future mechanical officers of the railroad and those who had immediate charge of electric operation, in the fundamentals of electric operation. In 1929 that was extended to the rest of the personnel, and this has resulted in there now being a number of superintendents, some general superintendents and one general manager, who have had intimate experience with electric operation, and this is resulting in making the handling of electric matters and electric problems of operation a routine one for management rather than a technical one for experts. I think that is probably one of the things that has made it possible to do many things with our electric operation that we did not think we could do when we started.

No paper on the Pennsylvania electrification would be complete without giving recognition to the people of the power companies and the electric manufacturers who have assisted in making it work. This started when we began to plan the program, is still actively going on, and is probably one of the outstanding reasons why the electrification has been such a pronounced success.

Eastman's "Magna Charta" of Administrative Law

"Whether on February 17 last the late Joe Eastman in addressing the Interstate Commerce Commission Practitioners, who were assembled at a dinner given by them in his honor, planned his speech as a final valedictory of a career that he knew or suspected was finished, must remain unknown. It was delivered on the eve of his going to the hospital where he died a month later. But, as it stands, it reads as if he did so plan it, and it is an utterance that comes like an impressive coda to all his public expressions over his long years of public service. In it he gathered up his impressions of that service and set them forth with the order and lucidity that had always characterized his expressed thoughts. Moreover, these impressions [see *Railway Age*, March 25, page 602] constitute a remarkable body of principles upon a most important and timely subject, namely, the place of the 'Administrative Agency' in our political structure. Coming from a man the greater part of whose life had been spent in administrative office, and was generally regarded as an outstanding example of the qualities required in such positions, the speech is a veritable landmark in a territory which badly needs a thorough surveying. It is of permanent value and importance—literally a classic in its field, and should be so treated. . . .

"Pointing out that 'administrative law' had become a necessity of modern jurisprudence, Eastman insisted that administrative agencies must be independent of all control other than that of the statutes that create them, and within the boundaries of those statutes they should be masters of their own souls and judgments. Now that the courts—as they were not in the past—seem disposed to refrain from interference with their orders, the agencies must be the more solicitous in seeing that their judgments are supported by evidence and are strictly impartial. Where this evidence for one or another reason is deficient, the agency—unlike a court—should aim to develop it. Full hearing and argument are indispensable. The agency's decisions should be succinct but should set forth the facts and the reasons for conclusions. The statute which creates an agency and vests it with powers should be carefully drawn, but the personnel of the agency is of primary importance.

"An administrative official need not be an 'expert' in the field committed to the agency. He should be able to grasp facts, comprehend them, relate them logically to the law, all with an open mind. He should not be a *zealot*. 'Zealots, evangelists and crusaders have their value *before* an administrative tribunal but not on it.' Patience, courtesy and a desire to be helpful are excellent adjuncts. Moral courage of course is essential. . . .

"The foregoing if not a *Magna Charta* of principles governing administrative law in action comes nearer to it than any single statement that the present writer has seen in his fifty years of more or less continuous observation. . . .

"If to every man, as he swears in as an officer of any administrative agency, there were handed a copy of this address, with the injunction that it was his first duty to read it, mark it, learn it and inwardly digest it, it would be a mighty good thing, for the sad fact is that in the last few years the need for reform in administrative agency practice—and especially in appointments—has become urgent."

—*Thomas F. Woodlock in the Wall Street Journal.*

Railroads-in-War News

Few Deferments for Men Under 26 Likely

Manpower committee makes no decision on claims for key rail employees

Special representatives of the Office of Defense Transportation have been appointed in the 48 state capitals to assist state directors of Selective Service in handling any deferment of essential transportation workers under 26 years of age that may be authorized in Washington, D. C., acting O. D. T. director Charles D. Young announced April 1, but it was not clear at that time to whom such deferments would apply, and meanwhile local draft boards continued to process eligibles in that age group under their recent orders to disregard many of the previous deferment standards.

Decision as to what, if any, transportation workers under 26 would be kept in their present jobs in order to avert any serious effect on transportation service would depend largely on the recommendations of the War Manpower Commission's committee of manpower claimants, it was understood. This committee, composed of representatives of government agencies with a vital interest in the manpower situation, included General Young and Otto S. Beyer, director of the O. D. T. Division of Transport Personnel. It met March 30 to formulate the criteria for determining critical activities in which deferment of men under 26 may be claimed, and set them forth as follows:

Deferment Criteria—"a. Production or service, whether of end products or components, must be so critical that the output is insufficient to support immediate war objectives.

"b. Recommendations for deferment of registrants under 26 engaged in critical production or service will be limited to specific individuals engaged in work which requires extreme or specialized skill or knowledge of a high educational qualification, and then only when the individual is irreplaceable from other less urgent work within the plant or by recruitment."

While "preliminary lists" of critical activities, with detailed examples, were submitted to the committee at that meeting, its chairman, W. M. C. chairman Paul V. McNutt, stated that no decisions were made. Its meetings continued with no great progress until it was announced on April 3 that it had recessed for one week to permit some of the claimant agencies to secure and organize additional information upon which the committee will undertake to list and fix quotas for critical industries in which deferments of men under 26 may be requested by the employers. It was explained at the time the recess was agreed upon that the committee had completed the "first third of its task," that is, selecting the activities to be included in the final preferred group. This selection, however, was tentative, it was emphasized, and cannot be regarded as final until there is further information as to how many employers and how many men will be affected. The next meeting of the committee was scheduled for April 11.

In announcing the selection of state representatives of O. D. T. to act in connection with Selective Service activities, General Young pointed out that no action will be taken on any special applications for deferment of transportation men under 26 until specific directions are received from Washington. Such special applications will be held until quotas are determined.

Presents Railroads' Case—It was understood that the necessity for deferment of a limited number of transportation workers under 26 was urged in the manpower committee sessions by General Young, but there was no indication that, in view of the present general policy of drafting almost all able-bodied men in that age group, the committee or Selective Service officers would be inclined to relent in their rigorous application of that policy beyond those specific cases where the deferment standards they adopted would be applicable.

At the meeting of the board of directors of the Association of American Railroads in Washington on March 31 the manpower shortage was again discussed at length, it was disclosed, but in view of the attitude of the Selective Service, which apparently reflects that of the armed forces, there was little ground for optimism in the picture, as seen by those who discussed the situation. While railroad employment figures recently have indicated some improvement on a quantitative basis, the point was emphasized at the A. A. R. meeting that such figures must be discounted because they fail to reflect the steady deterioration qualitatively that is going on as experienced workers are replaced by the inexperienced and, frequently, less capable substitutes that the roads are able to secure in the present labor market.

O. D. T. Extends Jurisdiction of R. O. Fischer

The jurisdiction of Richard O. Fischer, deputy director of the Division of Railway Transport, Office of Defense Transportation, has been extended to embrace the Division's Freight and Passenger Operations Section, formerly in charge of J. H. Aydelott, now acting director of the division. Mr. Fischer will continue also to supervise the Mechanical Operations and Controlled Materials sections.

Special Service for Chicago Conventions

O.D.T. will allow extra trains or cars restricted to certified visitors

Special provisions for the travel of accredited delegates, alternates, and news personnel to the national political conventions will be made to the extent that war traffic permits, according to a statement April 3 by Brig. Gen. C. D. Young, then acting director of the Office of Defense Transportation.

In explaining that the railroads and the Pullman Company will be authorized to use such extra cars as are available for the transportation of such "accredited persons" to and from the conventions, both of which are to be held in Chicago, Henry F. McCarthy, director of the O. D. T. Division of Traffic Movement, wrote to the chairmen of the national committees of the two major political parties an outline of the measures to be effected to carry out this policy.

To Discourage the Curious—"Regular sleeping cars operated by the railroads into and out of Chicago are practically 100 per cent occupied," said Mr. McCarthy, with "well over 90 per cent of that occupancy being military personnel and civilians traveling on essential and justifiable missions. To attempt to carry in these regular cars the large numbers of delegates and alternates, as well as the throng of visitors and sightseers who usually attend political conventions, would be an impossibility, and each of them so carried would mean the displacement of an essential traveler.

"Because it is our view that the quadrennial conventions of the political parties, for the purpose of selecting candidates for the Presidency and Vice-Presidency, are a necessary part of the American way of life, we feel it is incumbent upon the Office of Defense Transportation to make possible the transportation of necessary and accredited delegates and alternates to and from these conventions, but this must be done with the minimum interference with other essential travel. All of the plans which are herein proposed contemplate the definite discouragement of the attendance of visitors, sightseers, and all persons other than regularly authorized delegates and alternates."

Permits for Special Trains—Among the steps in the program outlined in Mr. McCarthy's letter were these: The national committees are to furnish the O. D. T. the names and addresses of the accredited delegates and alternates and of authorized

representatives of newspapers, newsreels and radio. From these lists the O. D. T. will issue certificates to the qualified individuals which will serve as permits for the railroads and the Pullman Company to transport the bearers in special cars or trains which O. D. T. will authorize them to operate solely for the use of authorized convention personnel.

These provisions contemplate efforts by the national committee chairmen to discourage travel to and from Chicago of persons other than those officially connected with the conventions, the letter pointed out, and this limitation applies to the families of delegates as well as other visitors. If such persons do attend, Mr. McCarthy added, the railroads will not be permitted to transport them in any of the special convention cars or trains. He explained also that special sleeping cars or parlor or lounge cars would not be authorized for the use of accredited persons who can reach Chicago in not to exceed 6½ hours by regularly scheduled train service. Special convention travel in such cases is to be accommodated in coaches.

Sleepers for Politicos—Mr. McCarthy said that General Order ODT 24 will be relaxed to the extent necessary to authorize the railroads to operate extra trains of sleeping cars, dining cars and coaches, but not parlor or lounge cars, for the accommodation of these certified convention travelers, or to include additional sleeping cars or coaches in regular trains for their use, and Pullman cars may be made available for the purpose to the extent that urgent military requirements permit. State delegations and individuals will be expected to make their own arrangements with the railroads for transportation in such extra trains or cars of those persons entitled to use them.

The letter also called attention to the fact that these provisions for issuing certificates to accredited delegates, alternates, and press representatives do not constitute any priority or special advantage with respect to reservations in regularly scheduled sleeping cars, parlor cars, or coaches for the benefit of the holders of the certificates, since these are designed to apply only to transportation in the specially authorized accommodations. Permission will not be granted for the parking and occupancy for living quarters in Chicago of any sleeping cars in connection with the conventions, it also was emphasized.

Alarmed by Coal Situation

Cargo vessels that had wintered at Lake Erie ports were taking on loads of coal and getting ready to start for upper lake ports last week, Solid Fuels Administrator Ickes announced, the exact date of their departure depending on the ice situation. Pre-season permits for rail movement of coal from the mines to the lower lake ports made these early movements possible, he pointed out.

Meanwhile, according to the same authority, stocks of bituminous coal held in storage by consumers as of March 1 had dropped to a new wartime low, as measured in average number of days supply. Production of bituminous for the week ended March 25 was about 11,930,000 tons, as compared with 12,599,000 tons in the corresponding 1943 week, and anthracite production also showed a decrease for the same week from last year's total, it was indicated by the Bureau of Mines estimates.

While consumers generally reported less bituminous on hand on March 1 than one month earlier, railroad coal supplies on hand in most sections showed some improvement, Mr. Ickes' figures revealed. Comparative totals for Class I roads reported by regions are shown in the table.

In an address April 3 at the annual meeting in Boston, Mass., of the New England Coal Dealers' Association, deputy solid fuels administrator Potter expressed doubt that next winter's supply of anthracite for domestic use in that area would amount to seven-eighths of the 1942-43 consumption. While some coke and bituminous will be available in that section for meeting this shortage of anthracite, it will be insufficient, he indicated, particularly as it is unlikely, in his opinion, that any substantial quantity of low volatile bituminous from the southern fields can be made available next winter for domestic use in New England. To meet what might become a critical shortage he urged that vigorous efforts be made to conserve available anthracite supplies and to reduce its consumption.

Suspends Increased Demurrage Charge on Reefers

The Interstate Commerce Commission on April 5 issued Amendment No. 3 to Service Order No. 180, suspending from April 6 to May 5 the operation of that order which fixes new demurrage charges, ranging up to $44 per day, on refrigerator cars. Prior to the amendment the order had been set up to expire April 11.

Meanwhile, Commissioner J. Monroe Johnson, who has just been appointed director of the Office of Defense Transportation, made public a letter which he wrote April 3 to Senator Reed, Republican of Kansas, telling the senator of the order's purposes and what it had accomplished. "I think," Commissioner Johnson wrote, "it did exactly what it was intended to do, i.e., increase the number of cars available for the movement of perishable products, at a time when it was necessary to augment the supply. In fact our refrigerator-car supply was easier during the week ended March 18, when 37,000 cars were loaded, than it had been during previous weeks when loading approximated 35,000 cars.

"Very few receivers of carlot shipments have been penalized by increased charges and no one would have been if proper consideration had been given to the supply of refrigerator cars."

Region	Stocks on Hand (Tons) Mar. 1, 1944	Feb. 1, 1944	Per cent of Change	Average Days Supply Mar. 1, 1944	Feb. 1, 1944
Eastern	2,110,765	2,029,190	+ 4.0	22	22
Allegheny	2,109,636	1,935,543	+ 9.0	22	21
Pocahontas	395,851	359,118	+10.2	18	17
Southern	1,495,663	1,455,609	+ 2.8	21	21
Northwestern	1,616,953	1,722,842	− 6.1	36	40
Central Western	1,520,645	1,471,283	+ 3.4	29	28
Southwestern	336,686	271,746	+23.9	22	18
Total	9,586,199	9,245,331	+ 3.7	24	24

Nips After Railroad Our Army Operates

The Japanese force which has crossed the Burmese border and is pressing into India appears to have as its objective the cutting of the Bengal & Assam Railway line, described in press dispatches as the route on which American and Chinese forces in northern Burma depend for their principal supplies.

It is known that units of the United States Military Railway Service are in India, and press dispatches from that theatre report that the railway line which appears to be the Japs' objective is operated by the U. S. Army Transportation Corps.

Northwest Grain Elevators No Longer Blocked

Senator Reed, Republican of Kansas, stated this week that there was no necessity for further consideration of the grain-car supply situation by the Senate interstate commerce subcommittee which had been investigating the matter in accordance with Senate Resolution 185. Reports which the senator has received from the Association of American Railroads indicate that no elevator in the Northwest is now closed for lack of cars to move grain.

At the subcommittee's public hearings early this year, various senators had expressed their indignation about the blocked domestic elevators at a time when 200 cars a day were going into Canada to bring out 40,000,000 bushels of grain purchased there by the War Food Administration.

40 C. N. J. Coaches to Aid Two Western Railroads

The Central of New Jersey will lease 40 passenger coaches to the Southern Pacific and Atchison, Topeka & Santa Fe for the handling of troops, following arrangements now being carried on by the Association of American Railroads and the O. D. T.

"The recent Jersey Central suburban service readjustment (removal of 68 passenger trains) ordered by the Office of Defense Transportation not only helped many of our own war-induced problems," explained William Wyer, chief executive officer of the C. N. J., "but also made it possible for us to release these 40 coaches, with a total of 3,120 seats, to these two hard-pressed western railroads."

More Pipe Lines in Service

While rail movement of petroleum products into the Atlantic coast area in the week ended March 25 showed a slight decrease from recent figures, the daily average of tank car shipments for the week being 699,109 barrels, this was accounted

for in part by delays to unloading resulting from two week-end snowstorms and in part to a change in requirements at certain points, according to Ralph K. Davies, acting petroleum administrator.

The general supply situation on the East coast was said to be in relatively good shape. however. Crude oil is being delivered at a rate in excess of 300,000 barrels a day by the so-called "Big Inch" pipe line, and heating oil has been coming through the 20-inch pipe line from Texas to New Jersey at the rate of 178,000 barrels a day, his statement indicated.

Meanwhile a 385-mile pipe line from west Texas to Drumright, Okla., has been completed, Mr. Davies added, and it went into service April 1. This 16-inch Stanolind line has an initial capacity of 50,000 barrels of crude a day, and this will be built up to 65,000 barrels as more pumping units are put in service. This line supplements the 12-inch Magnolia crude oil line from Midland, Tex., to Corsicana, 336 miles, that went into service March 10, the rated capacity of which is 42,000 barrels a day, with all pumps in service. With additional pumps, the ultimate combined capacity of these two new lines is estimated at 178,000 barrels a day.

Materials and Prices

The following is a digest of orders and notices that have been issued by the War Production Board and the Office of Price Administration since March 27, and which are of interest to railways:

Allotments for Manufacturing Class B Facilities—Rules governing acquisition of preference ratings and allotments for the manufacture of Class B facilities by a person who will make such facility for his own use, when he is not regularly engaged in the manufacture of such facilities, have been spelled out in an amendment to Direction-34 to CMPR-1. The person desiring to make the Class B facility should file an application for priorities assistance with WPB in Washington. The form generally used for this application is WPB-541 (formerly PD-1A), although in some cases other specific forms are designated by WPB orders and regulations. At the same time, the applicant must file a copy of Form CMP-4A covering the controlled materials which he will require for the manufacture of the facility. However, in filling out this form, the applicant need only give the following information: (1) Whether his application is for an increase in an allotment or is for an original allotment, (2) the name of the WPB division to which application is made, (3) the applicant's own name and address, (4) a designation of the product to be made, (5) and the name and address and title of the company representative, together with (6) information concerning the types of materials which are required tor the manufacture of the Class B facility.

This form will be processed by WPB in Washington, and if the manufacture of the Class B facility is approved, the applicant will receive the priorities assistance and allotment which he needs to make it. However, if such class B facilities are made in the normal course of the applicant's business, he must file Form CMP-4B in order to obtain the materials required for its manufacture.

Coal Stokers—Order L-75 (Coal Stokers), was amended on March 24, to provide that sales of Class A coal stokers (for large buildings) to fill orders for the Army and Navy and for approved installation in projects authorized by preference ratings regularly assigned to war housing and other construction projects may now be made without specific authorization from WPB. All other sales must still be authorized on Form WPB-1319, and applications for such authorization must be filed with the appropriate WPB field office. Approval on Form WPB-1319 also will constitute authority to begin construction if the total cost is no more than $5,000. If the total cost exceeds $5,000, however, applicants should apply for authorization to purchase and install a Class A stoker on regular construction application forms GA-1456 or WPB-2896.

Dewatering Pumps—Certain restrictions on the use of metals in contractors' dewatering and supply pumps were removed on March 27, by an amendment to Schedule VII of Order L-217 (construction Machinery and Equipment Simplification and Conservation). Wheel bushings may contain copper or copper base alloy; and body construction of self-priming centrifugal pumps may be of iron or aluminum, instead of iron only. Restrictions on skids, which formerly could be made only of wood, have been removed.

Electric Control Equipment—Limitation Order L-250 has been amended to provide greater protection for electric control equipment, and at the same time, to eliminate the ordering of explosion and dust-tight enclosures when not absolutely necessary. Restrictions have been lifted on the use of steel for general purpose and semi-dust tight enclosures for floor-mounted control equipment. Specifications for bus-bars, connecting straps and terminals of electric controls, and restrictions on the use of aluminum for data plates on such equipment also have been removed.

Hand-Brake Wheels, AB Brakes and Steel Wheels—Although no change in procedure was involved, the wording of Direction-1 has been changed (effective April 1) to conform to the provisions of P-142 as amended February 15. The amendment points out that malleable iron hand-brake wheels cannot be acquired except for repair and maintenance purposes. Operators are specifically forbidden to acquire such equipment for conversion from the non-geared to the geared type. Acquisition of AB freight car brakes, other than for use as repair parts, and steel wheels also are restricted.

Rotary Files—Restrictions on the use of alloy steel in the manufacture of shanks for rotary files were eliminated March 27. Action was taken by amending Schedule IV to Limitation Order L-216 (Simplification and Standardization of Rotary Files and Burrs). While sizes and shapes are still limited, it will no longer be necessary to manufacture shanks for rotary files, having a cutting diameter of ⅛ in. or more, from carbon steel exclusively. Restrictions on shank diameters and the over-all length of rotary files, formerly in the Schedule, also were revoked.

Special CMP Items—The meaning of the term "special item" as used in CMPR-2, with respect to acceptance of deliveries of materials when requirements have been reduced, has been clarified in Interpretation-2, issued March 20. A user of controlled materials must promptly cancel, postpone, or reduce delivery of controlled materials when his requirements for such materials are reduced. However, the regulation also permits the receipt of a special item of controlled materials at an earlier date than it is actually needed, under the following circumstances: (1) if the user has promptly instructed the producer to reduce or postpone the delivery of the item; and (2) if the user has received from the producer a statement that the item is a special item on which production has been begun and that the producer must complete a minimum amount in order to prevent undue loss of production. This exception, however, applies only to special items the user will need, and does not permit acceptance of items which will not be needed at all.

The interpretation points out that a "special item" is one that the producer does not usually make, stock, or sell, and one which he cannot readily dispose of in the course of his business. An item may be a "special item" to one producer and may not be to another. In a case where a producer wishes to deliver a special item after receipt of notification of postponement or reduction, he must notify his customer in writing, (1) that the item is a special item and (2) must state the minimum amount he must complete to avoid undue loss of production. The customer is entitled to rely on this notification and need make no further inquiries in order to be in a position to receive delivery of the material.

The interpretation also points out that producers, when they receive instructions from their customers to reduce or postpone delivery, must be diligent in taking special items out of their schedules or in stopping production if it has already been started.

Prices

Brass and Bronze—Amendment-4 to MPR-202 (Brass and Bronze Alloy Ingot and Shot) effective April 1, provides increases of ¾ of a cent per pound in the principal grades of the 85-5-5-5 group of brass and bronze alloy ingot, and 1¼ cents per pound in the principal grades of the 80-10-10 group. The higher prices are authorized, OPA said, because producers are unable to absorb the higher cost of virgin metal and higher grade scrap which now have to be used in the production of these groups of ingot, because of insufficient supplies of obsolete scrap normally used, such as old automobile radiators.

The new ceilings for the 85-5-5-5 group range from 12.00 to 13.75 cents per pound, according to alloy content, while those for the 80-10-10 group range from 13 to 20 cents per pound. These prices are for sales in carload lots, including an allowance for transportation, not to exceed 25 cents per hundredweight.

BX Electrical Cable—A new dollars-and-cents price schedule for manufacturers of armored (BX) electrical cable, based on 1941 prices in effect by the industry generally, has been provided by Amendment No. 8 to RPS-82, (Wire, Cable and Cable Accessories) effective April 3. The new prices represent an increase of 10 per cent to 8 of the 13 known producers of the armored cable, and are the same prices now in effect for the other five. The cable is not sold at retail, and is used mainly by contractors in the wiring of buildings, such as homes and apartment houses.

The price established by today's action for No. 14-2 BX cable, which accounts for more than half of the total sales of armored cable, is $30.60 per 1,000 ft. delivered in Zone 1-A. This is the price five manufacturers had in effect on October 15, 1941, and is an increase of $2.80 in the price to which the other eight producers were cut back on the freeze date.

Rim Locks and Lock Sets—Amendment-3 to MPR-137 (Locks and Lock Sets) effective April 5, provides specific dollars-and-cents prices for manufacturers' sales of rim locks and steel, porcelain, mineral and jet knob rim lock sets. Formerly, manufacturers' prices for these construction articles were the highest in effect for each customer during the period October 1-15, 1941, "frozen" under provisions of a price schedule. Manufacturers' prices to jobbers are the list price, less 5 per cent, and to other classes of purchasers must not exceed the list. However, other discounts and allowances in effect on October 1, 1941, must also be maintained. Jobbers are permitted a mark-up of 33⅓ per cent, before freight, in their sales of the articles.

Yellow Cypress—Producers of yellow cypress lumber, in using the dollars-and-cents ceiling prices for this species announced last month, must price according to the grades established by the National Hardwood Lumber Association Rules for the Measurement and Inspection of Hardwood Lumber, Cypress, Veneers and Plywood Lumber, issued in January, 1941, by the National Hardwood Lumber Association.

The OPA said that when the ceiling prices were issued, the regulation containing the prices did not state that the grades and terms used in the regulation are based on the National Hardwood Lumber Association's grading rules. A paragraph so stating, is now being incorporated into the regulation by amendment-1 to MPR-513 (Yellow Cypress Lumber), effective April 5.

Yellow Cypress—Amendment-2 to MPR-513 (Yellow Cypress Lumber) effective April 8, revokes a pricing provision which, in effect, had reduced yellow cypress lumber prices charged by many mills by $2.50 per M. b. m. The provision, now revoked, stipulated that in sales of all items of yellow cypress lumber in rough form, except timbers, a deduction of $2.50 had to be made from ceiling prices in cases in which the shipment originated at a sawmill not equipped with a planing mill, or, as an alternative, free delivery had to be supplied within a radius of 30 miles from the mill.

To cover sales to concentrators, OPA said, is a yellow cypress pricing provision which requires mills to deduct 10 per cent from ceiling prices and provide free delivery up to 30 miles if the seller does not specify the exact grades and items contained in the shipment, based on his own inspection. This provides a 10 per cent margin for the concentrator who buys rough ungraded lumber from small mills for reworking and finishing.

GENERAL NEWS

U. S. Chamber Puts Off Annual Meeting

Travel jam leads to its first postponement in 32 years; to act on resolutions

Indefinite postponement of the annual meeting of the Chamber of Commerce of the United States, scheduled to be held in New York on May 3, 4, and 5, was announced March 30 by Eric A. Johnston, president of the organization, upon the authority of its board of directors.

"The United States Chamber has never before missed a yearly meeting in the 32 years of its existence," Mr. Johnston pointed out. "Only the urgency of war is now allowed to interfere. A program for this year has been in the making, but the mounting demands of the war effort have made it more evident as those plans went forward that postponement should be given serious attention. . . . The action of the Chamber's board was largely influenced by the growing demands on rail transportation facilities. Approximately one-half of all Pullman car accommodations are today being used for the organized movement of the armed forces. In addition millions of men and women in uniform are traveling on furlough. Due to the fact that the railroads in the present emergency have not been able to obtain needed additional passenger equipment, facilities left available for the general traveling public are greatly reduced."

Even though "every organization, whatever segment of the national economy it may represent, regards its own affairs as of the utmost importance," said Mr. Johnston, "in the present national crisis each must yield where the common purpose is served."

Among the subjects scheduled for consideration at the postponed annual meeting were three transportation reports prepared by the Chamber's committee on transportation and communication, the substance of which was outlined in *Railway Age* last week, page 654. These reports were accomplished by three resolutions which the committee recommended for adoption at the annual meeting as expressions of the organization's attitude on weight limitations on the public highways, on tax legislation affecting the railroads and "uniform" rates, and on wartime transportation conservation. These proposed resolutions had been approved by the board of directors for submission to the membership. At the time the decision was reached to postpone the annual meeting the board adopted a procedure under which these proposals, along with others scheduled for presentation to the membership, will be acted on by the resolutions committee.

Vermonters Oppose Seaway

Senator Aiken (R.) of Vermont was revealed in these pages, March 18 issue, as supporting President Roosevelt in the latter's persistence in favoring the construction of the St. Lawrence Seaway. However, in thus collaborating with the New Deal it is evident that the Senator does not reflect the opinion of his constituents.

Executive Secretary C. E. Cleveland of the Vermont Railroads' Association advises that the lower house of the legislature in that state has, by a vote of 123 to 69, refused its endorsement of the Seaway project.

Midwest Group Assumes Control of Kansas City Southern

Management of the Kansas City Southern has been assumed by a group of midwestern business men. At a meeting of the board of directors held April 4 in New York, a resolution was adopted naming a slate of 18 nominees for the board of directors to be elected at the annual meeting in Kansas City, Mo., on May 9. The new board will include the following eight members, not now directors: Joseph R. Brown, an attorney, Fort Smith, Ark.; John D. Ewing, owner of the Shreveport Times, Shreveport, La.; Samuel E. Gilinsky, Gilinsky Fruit Company, Omaha, Neb.; James J. Lynn, president, U. S. Epperson Underwriting Company, Kansas City; R. T. Moore, lumberman, Shreveport, La.; Grant Stauffer, president, Sinclair Coal Company, Kansas City; John E. Bierwirth, president, the New York Trust Company, New York, and Johnson O. Couch, assistant vice-president of the railroad. If approved by stockholders, these directors will replace E. G. Bennett, Ogden, Utah; Dwight S. Brigham, Boston, Mass.; and Percy J. Ebbott, Paul H. Saunders, Paul V. Shields and Sir William Wiseman, all of New York.

As a result of these arrangements, W. N. Deremus, present operating head of the railroad and its subsidiaries, will direct the operations of the company under the supervision of the new board and C. P. Couch, the present chairman of the board, will retire from the active management of the properties, but will continue in an advisory capacity.

Reading Advertising Series

The vital need for railroad workers is the keynote of a new series of wartime institutional advertisements, now being published by the Reading in 35 daily newspapers along its lines. Advertisements are personalized with special messages from E. W. Scheer, system president.

Capital Expenditures Declined in 1943

Total of $454,282,000 was $80,615,000 below 1942 figure

Capital expenditures for equipment and other improvements to railway property made by Class I railroads in 1943 totaled $454,282,000, a decrease of $80,615,000 below those made in 1942, according to the Association of American Railroads.

Of total capital expenditures made in 1943, $255,981,000 were for locomotives, freight-train cars, passenger-train cars and other equipment and $198,301,000 for roadway and structures. Capital expenditures for equipment in 1943 were $93,393,000 below those in 1942, but expenditures for roadway and structures were $12,778,000 above the preceding year.

Equipment Off—"Comparison of capital expenditures made by the Class I roads in 1943 with previous years reveals an interesting situation," the A. A. R. said. "While expenditures for roadway and structures in the past calendar year were greater than in any year since 1931, those for equipment were less in 1943 than in each of the preceding three years. This was due principally to inability to obtain in recent years materials for new freight and passenger cars. On the other hand, expenditures for locomotives in 1943 were greater than in any year since 1923."

Capital expenditures for locomotives in 1943 totaled $142,070,000 compared with $113,834,000 in 1942, and $80,607,000 in 1941. In 1940, capital expenditures for locomotives amounted to $54,351,000 and in 1939 they were $42,807,000 as compared to $208,966,000 in 1933.

For freight-train cars, capital expenditures in 1943 amounted to $97,890,000, which was less than in any of the preceding three years but an increase of $31,111,000 compared with 1939. For passenger-train cars, the amount of capital expenditures totaled $5,828,000 in 1943, which was considerably less than the amount spent for such purposes in any of the preceding nine years. In 1942 such expenditures totaled $24,075,000 and in 1941 they were $29,544,000. Expenditures for passenger-train cars in 1940 amounted to $18,417,000 and in 1939 they were $19,723,000. For other equipment, expenditures last year amounted to $10,193,000 compared with $10,353,000 in 1942, and $11,704,000 in 1941.

Track Work—Of the $198,301,000 spent for roadway and structures, about one half was used for improvement of tracks and sidings. For additional track,

(*Continued on page 695*)

Last Year's Purchases Greatest Since 1927

$1,394,281,000 spent by Class I roads for materials, supplies, and fuel

Purchases of fuel, materials and supplies by Class I railroads of the United States in connection with their operation were greater in 1943 than in any other year since 1927, according to J. J. Pelley, president of the Association of American Railroads. Such purchases in 1943 totaled $1,394,281,000, an increase of $134,470,000 compared with 1942. In 1927 purchases of fuel, materials and supplies totaled $1,395,928,000.

Purchases increased 10.7 per cent between 1942 and 1943. Part of this increase was due to increased prices, which averaged about 7 per cent higher in 1943 than in 1942, and the remainder was due to greater volume purchased.

Fuel and Forest Products—Class I roads in 1943 expended $527,296,000 for fuel compared with $426,335,000 in 1942. For bituminous coal only, their purchases totaled $375,398,000 or an increase of $62,611,000 compared with the preceding year, while anthracite purchases totaled $3,715,000, or an increase of $625,000 compared with 1942. Purchases of fuel oil in 1943 amounted to $136,905,000, compared with $99,767,000 in the preceding year. For gasoline, there was an expenditure of $5,782,000 in the past year, while for all other fuels, including coke, wood, and fuel for illumination, expenditures amounted to $5,496,000.

Purchases of forest products amounted to $150,255,000 in 1943 compared with $115,227,000 in 1942. For cross ties, including switch and bridge ties, the railroads expended $92,871,000 in 1943, an increase of $21,683,000 above such expenditures in 1942. Purchases of lumber, including timber as well as other forest products, amounted to $57,384,000, or an increase of $13,345,000 above the preceding year.

Iron and Steel—Class I roads in 1943 purchased iron and steel products amounting to $410,803,000, compared with $433,089,000 in 1942, or a decrease of $22,286,000. For locomotive and car castings, beams, couplers, frames and car roofs, the railroads spent $49,440,000 in 1943, compared with $61,359,000 in the preceding year. Purchases of steel rail, including new and second-hand except scrap, amounted to $60,074,000 in 1943, compared with $55,647,000 in the preceding year; while for track fastenings, track bolts, spikes, and other such materials used in connection with the laying of rails, the railroads expended $43,804,000, or a decrease of $9,545,000 below the preceding year.

For wheels, axles and tires, the railroads expended $44,550,000, compared with $41,501,000 in the preceding year; and for bar iron and steel, spring steel, tool steel, unfabricated rolled shapes, wire netting and chain, boiler, firebox, tank and sheet iron and steel of all kinds their expenditures amounted to $28,868,000, compared with $27,120,000 in the preceding year. Purchases of interlocking and signal material in 1943 amounted to $18,152,000 and for standard and special mechanical appliances for locomotives, $18,478,000.

Miscellaneous purchases made by the Class I roads totaled $305,927,000 in 1943 compared with $285,160,000 in 1942. Coming under this heading were $38,852,000 for glass, drugs, chemicals, including chemicals for timber treatment, and painters' supplies; $30,468,000 for lubricating oils and grease, illuminating oils, boiler compound and waste; $20,258,000 for stationery and printing; $56,417,000 for commissary supplies for dining cars, camps and restaurants; $19,783,000 for electrical materials; $19,509,000 for ballast; $29,544,000 for nonferrous metals and products; $7,631,000 for passenger car trimmings; and $22,463,000 for locomotive, train and station supplies.

Pacific Railway Club Elects Officers

Four hundred and twenty-nine persons attended the twenty-seventh annual meeting of the Pacific Railway Club at San Francisco on March 28 at which Fred G. Gurley, vice-president, A. T. & S. F., spoke on Transportation—Today and Tomorrow. At this meeting the following newly-elected officers were installed: President, H. S. Wall, retired mechanical superintendent, A. T. & S. F., Alhambra, Calif.; first vice-president, C. A. Veale, vice-president and general manager, NW. Pac., Sausalito, Calif.; second vice-president, W. T. Richards, division engineer, W. P., Sacramento, Calif.; third vice-president, H. R. Fegley, assistant to general manager, W. P., San Francisco, Calif.; treasurer, H. E. Jordan, superintendent of equipment, L. A., Los Angeles, Calif. W. S. Wollner, who has been secretary of the club since its organization in 1917, was re-elected to that position.

N. Y. C. Passengers to Influence Post-War Coach Design

"The Post-War Railroad Coach as I Would Like It" is the title of an invitingly illustrated, pocket-size questionnaire being distributed to passengers aboard the Empire State Express, Pacemaker, Mercury and other New York Central trains. The railroad is currently inviting several thousand passengers to answer 60 questions, mostly by "yes" or "no," on a variety of topics relative to coach travel. Passengers are asked to indicate their preferences on seating, windows, door handles, lighting, air conditioning, smoking, ticket collections, luggage, interior decoration, radio, exterior appearance of the train, as well as special services such as porter, stewardess and maid service.

Commenting upon the booklet, F. H. Baird, general passenger traffic manager of the Central, explains that "we are not attempting to cover technical matters. The many scientific advances which post-war equipment will embody are being worked out by our engineering department." Rather, they seek travelers' personal preferences on matters relating to their comfort and travel enjoyment.

The booklet is first in a series of studies to cover every phase of passenger transportation operation.

2 Months Net Income Totaled $91,500,000

Net railway operating income for same period was $167,317,095

Class I railroads in the first two months of this year had an estimated net income, after interest and rentals, of $91,500,000, as compared with $124,798,638 in the first two months of 1943, according to the Bureau of Railway Economics of the Association of American Railroads. The two-months net railway operating income, before interest and rentals, was $167,317,095, compared with $210,923,392 in the corresponding 1943 period.

February's estimated net income was $46,300,000, compared with $61,818,808 in February, 1943; while the net railway operating income for that month was $84,493,179, compared with February, 1943's $105,834,247. February was the ninth consecutive month in which the net earnings of the carriers showed a decline, the A. A. R. statement pointed out.

Rate of Return Falls—In the 12 months ended with February, the Class I roads had a rate of return of 4.88 per cent on their property investment, as compared with 5.87 per cent for the 12 months ended with February, 1943.

Operating revenues for February totaled $735,305,464 compared with $663,479,220 in February, 1943, while operating expenses totaled $492,093,830 compared with $408,432,890. The two-months gross totaled $1,475,977,197 compared with $1,334,802,058 in the same period in 1943, or an increase of 10.6 per cent. Operating expenses amounted to $996,106,905 compared with $832,611,319, or an increase of 19.6 per cent.

Class I roads in the two months paid $282,692,779 in taxes compared with $260,838,821 in the same period in 1943. For February alone, the tax bill amounted to $143,723,314 an increase of $10,111,216 or 7.6 per cent above February, 1943.

Nineteen Class I roads failed to earn interest and rentals in the two months, of which 10 were in the Eastern district, two in the Southern region, and seven in the Western district.

In the East and South—Class I roads in the Eastern district in the two months had an estimated net income of $35,700,000 compared with $45,862,227 in the same period of 1943. Their net railway operating income was $66,656,237 compared with $79,849,742.

Operating revenues in the Eastern district in the two months totaled $646,919,735 an increase of 9.4 per cent compared with the same period in 1943, while operating expenses totaled $468,397,357 an increase of 18.2 per cent.

February's estimated net income in the Eastern district was $18,800,000 compared with $22,258,989 in February, 1943. Net railway operating income for the month amounted to $34,010,317 compared with $39,510,130.

Class I roads in the Southern region in the two months had an estimated net in-

come of $19,900,000 compared with $25,904,134 in the same period of 1943. Their net railway operating income was $29,967,575 compared with $36,798,197.

Gross in the Southern region for the two months totaled $219,001,442 an increase of 6.7 per cent compared with the same period of 1943, while operating expenses totaled $133,284,348 an increase of 15.7 per cent.

The Southern region's estimated net income for February was $9,900,000 compared with $12,542,981 in February, 1943.

In the same region the net railway operating income amounted to $15,555,855 compared with $18,566,605.

In the West—Class I roads in the Western district in the two months had an estimated net income of $35,900,000 compared with $53,032,277 in the same period of 1943. Their net railway operating income was $70,693,283 compared with $94,275,453.

Operating revenues in the Western district in the two months totaled $610,056,020 an increase of 13.4 per cent compared with the same period in 1943, while operating expenses totaled $394,425,200 an increase of 22.9 per cent.

February's estimated net income in the Western district was $17,600,000 compared with $27,016,838 in February, 1943. Net railway operating income amounted to $34,927,007 compared with $47,757,512 in February, 1943.

CLASS I RAILROADS—UNITED STATES

	1944	1943
Month of February		
Total operating revenues	$735,305,464	$663,479,220
Total operating expenses	492,093,830	408,432,890
Operating ratio—per cent	66.92	61.56
Taxes	143,723,314	133,612,098
Net railway operating income (Earnings before charges)	84,493,179	105,834,247
Net income, after charges (estimated)	46,300,000	61,818,808
Two Months Ended February 29, 1944		
Total operating revenues	$1,475,977,197	$1,334,802,058
Total operating expenses	996,106,905	832,611,319
Operating ratio—per cent	67.49	62.38
Taxes	282,692,779	260,838,821
Net railway operating income (Earnings before charges)	167,317,095	210,923,392
Net income, after charges (estimated)	91,500,000	124,798,638

Pennsylvania Agrees to Employ Negro Stewards on Diners

The Pennsylvania has agreed to employ qualified dining car stewards without regard to race, creed, color or national origin, according to the President's Committee on Fair Employment Practice.

"During the course of negotiations which followed public hearings held by the committee in Washington last September, the railroad also agreed that negroes now employed as waiters-in-charge, and other negroes who apply for steward jobs will be given equal consideration without regard to their race or color," F. E. P. C. Chairman Malcolm Ross stated.

"The settlement opens the way for 48 negro waiters-in-charge on the Pennsylvania to apply for steward jobs on an equal basis with any other applicants."

At the same time the Pennsylvania, according to the committee's statement, has advised that since the September hearings there has been an increase of almost 400 negro mechanics and mechanics helpers employed by the company through upgrading in the shop, yard, and roundhouse categories. In addition, ten new skilled occupations in the mechanical equipment department have also been opened to negroes.

Included among the latter jobs are boiler inspector, freight car inspector, passenger car inspector, air brake inspector, machine operator, tender repairman, sheet metal worker and electric crane operator.

Limit Louisville Reservations for Derby Period

Plans worked out by the Office of Defense Transportation and the management of Churchill Downs to restrict travel in the interest of wartime transportation, and still not interfere with the running of the Kentucky Derby on May 6, have been reinforced by action of the railroads serving Louisville, Ky., under which reservations to Louisville for the period of May 1 to 6, and returning from Louisville for May 6 to 8, will be available prior to May 1 only to members of the armed forces, to holders of government transportation requests, or to other bona fide essential travel, the O. D. T. has announced.

Motor bus lines serving Louisville have also agreed, at the request of the O. D. T. not to furnish additional service to Louisville during the Derby week-end, in addition to the normal week-end requirements.

The railroads cooperating to restrict travel in connection with the Derby are the Southern, Chicago, Indianapolis & Louisville, Chesapeake & Ohio, New York Central, Illinois Central, Baltimore & Ohio, Louisville & Nashville, and Pennsylvania.

Tugboat Operator Held Subject to I. C. C. Regulation

The operation of tugboats for hire in interstate commerce is subject to regulation by the Interstate Commerce Commission under part III of the Interstate Commerce Act, the Supreme Court of the United States held April 3 in an opinion, delivered by Justice Black, in the *Cornell Steamboat Co.* vs. *U. S.* case. The views of the court majority gave rise to a dissent in part by Justice Frankfurter, in which Justice Roberts joined.

This decision of the court thus upheld the commission's finding as set forth in its report and order in its W-359 proceeding, as noted in *Railway Age* of March 6, 1943, page 484. The contention that Cornell, as a tugboat operator, was not a water carrier was not accepted by the court, and Justice Black pointed out that part III of the act defines transportation as including "all services in or in connection with transportation," while it refers to a water carrier as any person who engages in the transportation by water of property for compensation. The court went on to accept without review the commission's finding that Cornell's operations are those of a common carrier, not a contract carrier.

What Is "Interstate"?—Another point involved in the case, and the basis for the dissent of the two justices who did not agree with the majority, was whether the movement of Cornell's towboats from a point in New York to another point in New York, in the course of which they passed into that part of the Hudson river included within the bounds of New Jersey, constituted an interstate operation, even though they did not make a New Jersey landing. On this question Justice Black said, "Water transportation between two ports of a single state may touch many other states, and pass through hundreds of miles of other states' waters, far removed from the state in which the terminal ports of the voyage are located. Power of the commission to regulate such movements appears to come well within the broad purposes declared by Congress in passing legislation designed comprehensively to coordinate a national system of all types of transportation."

At the same time the Supreme Court dismissed the appeal of the Boston Tow Boat Co. for the right to intervene in the Cornell case in court as it had before the commission. Here Justice Black pointed out that the petitioner had no financial or other interest except that it might be affected to the extent that the Cornell decision constituted a precedent as to the commission's jurisdiction over its own operations, which the court held to be insufficient ground to entitle it to independent appeal.

Mid-West Board Meeting

A decrease of 2.3 per cent in carloadings in the territory of the Mid-West Shippers Advisory Board during the second quarter of 1944, as compared with the same period of 1943, was forecast at its sixty-sixth regular meeting at Chicago on April 6. The completion of pipeline facilities east of Norris City, Ill., was cited as a large factor in lower loadings of petroleum and petroleum products, the estimate for the second quarter being 50 per cent less than the number of cars shipped a year ago. Other decreases forecast were in gravel, sand and stone, 25 per cent; cement, 30 per cent; lime, brick and clay products, 20 per cent; and machinery, 15 per cent.

National transportation conditions and the Perfect Shipping campaign were discussed. In addition, a testimonial luncheon was held in honor of William D. Beck, retired district manager of the Car Service division of the Association of American Railroads.

Rock Island to Study Radio for Train Communication

A program of study and experimentation in the use of radar and other electronic devices for train communication and control has been undertaken by the Chicago, Rock Island & Pacific. Ernest A. Dahl, an electronic engineer, formerly employed by the Western Electric Company in radar and micro-wave work, has been appointed to direct the Rock Island's investigations.

The Rock Island plans to develop a radio communication system in the micro- wave region. Attention will first be given to radio communication between the head and rear ends of trains and between yard offices and switching crews. Ultimately, communication between dispatchers and crews of trains on line will be considered.

At the same time, according to a state-

ment made by J. D. Farrington, chief executive officer, Mr. Dahl will also direct experimentation in the use of radar, particularly in safety applications. "It is thought," the statement continues, "that the use of basic radar principles may have far reaching practical applications in the safe and efficient operation of trains."

Freight Car Loading

Loading of revenue freight for the week ended April 1 totaled 787,525 cars, the Association of American Railroads announced on April 6. This was an increase of 8,600 cars or 1.1 per cent above the preceding week, an increase of 15,423 cars or 2.0 per cent above the corresponding week last year, and a decrease of 41,513 cars or 5.0 per cent below the comparable 1942 week.

Loading of revenue freight for the week ended March 25 totaled 778,925 cars and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For the Week Ended Saturday, March 25

District	1944	1943	1942
Eastern	158,970	162,877	167,777
Allegheny	171,310	178,736	182,285
Pocahontas	54,874	57,434	56,106
Southern	122,051	121,386	125,995
Northwestern	85,001	81,209	100,168
Central Western	117,961	117,690	113,106
Southwestern	68,758	68,008	62,849
Total Western Districts	271,720	266,907	276,123
Total All Roads	778,925	787,340	808,286
Commodities			
Grain and grain products	43,261	44,979	33,732
Live stock	14,491	13,740	10,807
Coal	169,361	179,702	156,180
Coke	14,266	15,192	13,840
Forest products	43,592	41,687	45,919
Ore	14,492	18,279	33,368
Merchandise l.c.l.	106,716	99,952	143,660
Miscellaneous	372,746	373,809	370,780
March 25	778,925	787,340	808,286
March 18	786,442	768,134	796,654
March 11	781,533	769,045	799,356
March 4	788,255	748,926	770,485
February 26	782,463	782,921	781,859
Cumulative Total, 13 Weeks	10,091,124	9,660,981	10,156,202

In Canada.—Carloadings for the week ended March 25 totaled 69,745, compared with 69,635 for the previous week, and 66,896 for the corresponding period last year, according to the compilation of the Dominion Bureau of Statistics.

Total for Canada	Total Cars Loaded	Total Cars Rec'd from Connections
Mar. 25, 1944	69,745	43,173
Mar. 18, 1944	69,635	42,244
Mar. 11, 1944	69,188	40,566
Mar. 27, 1943	66,896	43,110
Cumulative Totals for Canada		
Mar. 25, 1944	816,168	477,527
Mar. 27, 1943	727,756	457,390
Mar. 28, 1942	748,055	388,375

Santa Fe Launches Manpower Drive

A nation-wide manpower campaign to secure new employees to replace those lost to the armed forces and to fill the needs of expanding business has been launched by the Atchison, Topeka & Santa Fe. Basing its appeal on the necessity of opening a "route to Tokyo," the railroad will enlist the aid of its 60,000 employees in recruiting new workers for vital war jobs along the 13,000-mile line. The campaign will be conducted in every city in which the railroad operates, as well as in other parts of the country.

In opening the drive, the railroad stated that a constantly greater amount of war traffic will be moving west as the war in the Pacific reaches the decisive stage. In order to handle this record volume of business, it was pointed out, additional facilities and men will be needed.

Acute manpower shortages in 27 job classifications on the railroad were listed. These shortages include brakemen, switchmen, telegraphers and other skilled and unskilled occupations. Although trained men are sorely needed, the railroad will consider any applicant regardless of previous experience.

The railroad will make its appeal to workers now in nonessential industries. Such inducements as recently increased wage rates, railroad retirement and unemployment insurance, hospital and medical care and transportation privileges will be offered prospective employees. Agencies cooperating with the Santa Fe in its job campaign are the Railroad Retirement Board and the United States Employment Service, both of whom will interview applicants for jobs with the railroad.

Perfect Shipping Luncheon

A perfect shipping month luncheon was conducted at St. Paul, Minn. on April 4 by the Transportation Club of St. Paul with the Northwest Shippers Advisory Board providing the program. G. H. Shafer, president of the National Association of Shippers Advisory Boards, was the principal speaker.

I. C. C. Service Orders

Interstate Commerce Commission Service Order No. 193, effective April 3, authorized the Alabama, Tennessee & Northern to forward freight routed over its line between York, Ala., and Reform by the most available routes, since that line has been blocked by high water.

Service Order No. 194 directed the New York, New Haven & Hartford and the New York Central forthwith to unload certain cars loaded with coal which have been standing on their tracks at Oak Point, N. Y., and Clearfield, Pa., respectively, "for an unreasonable length of time." This order also was effective April 3. A similar order, No. 195, effective April 4, required the Pennsylvania to unload forthwith four cars loaded with coal standing on its tracks at Henderson street, Jersey City, N. J. Service Order No. 192, applying to one car loaded with coal which was unduly delayed at Van Nest, N. Y., on the New York, New Haven & Hartford, was effective March 28 and vacated, by order No. 192-A, on March 31.

Two other service orders requiring that certain cars be unloaded forthwith, Nos. 186 and 190, have been set aside by Nos. 186-A and 190-A, effective, respectively, on April 1 and 3, while Service Order No. 185, requiring the unloading of certain cars at Jersey City, N. J., was set aside by No. 185-A, effective March 30.

By Amendment No. 2 to Service Order No. 184, the commission has extended from April 3 to May 3 the effective date of that order, which applies to cars supplied to shippers of packing house products and related commodities. The effective date of this order previously had been set forward from March 16 to April 3.

Service Order No. 191, effective March 27, required the Boston & Maine to unload forthwith 10 cars of coal on hand for some time at Charlestown, Mass.

Second-Quarter Loading Forecast

The Shippers' Advisory Boards estimate of a three per cent increase in loadings for the second quarter, noted briefly in last week's issue, is broken down by districts in the following table which also shows the actual loadings for the comparable 1943 quarter.

Shippers' Advisory Boards	Actual Loadings Second Quarter 1943	Estimated Loadings Second Quarter 1944	Per Cent Increase
New England	168,850	183,668	8.8
Atlantic States	896,780	892,753	.5-d
Allegheny	1,096,896	1,216,509	10.9
Ohio Valley	1,104,603	1,196,917	8.4
Southeast	1,044,727	1,028,337	1.6-d
Great Lakes	604,191	644,862	6.7
Central Western	279,258	271,958	2.6-d
Mid-West	1,240,980	1,214,557	2.1-d
Northwest	657,746	744,815	13.2
Trans-Missouri-Kansas	431,347	413,115	4.2-d
Southwest	691,376	652,179	5.7-d
Pacific Coast	433,868	453,288	4.5
Pacific Northwest	292,932	296,549	1.2
Total	8,943,554	9,209,507	3.0

Commodities for which the greatest increases in loadings are estimated include: Potatoes, 36.3 per cent; agricultural implements and vehicles other than automobiles, 27.2 per cent; ore, 21.1 per cent; coal and coke, 13.6 per cent; citrus fruits, 12.1 per cent; fresh vegetables other than potatoes, 5.8 per cent; fertilizers of all kinds, 5.5 per cent; sugar, syrup and molasses, 5.1 per cent; all canned goods, 4.2 per cent; manufactures and miscellaneous, 3.7 per cent; salt, 3.5 per cent; and flour, meal and other products, 3.1 per cent.

Commodities for which decreases are estimated include the following: Cement, 28.5 per cent; gravel, sand, and stone, 21.8 per cent; petroleum and petroleum products, 13.3 per cent; brick and clay products, 13 per cent; cotton, 10.6 per cent; machinery and boilers, 5 per cent; lumber and forest products, 4.9 per cent; and all grain, 4 per cent.

B. & O. "Youth Series"

A new series of Baltimore & Ohio community advertisements, based on "Young America," and with a definite view to the future, is currently appearing in 247 daily and weekly newspapers and in 178 towns along B. & O. lines. While messages are not addressed directly to the younger generation, the advertisements employ this group as a "symbol," to emphasize the importance of railroads and the position they will occupy in the post-war period.

"Bill is like the 'errand boy' that serves 130,000 Americans," reads one advertisement. Describing railroads as "giant 'errand boys,'" the B. & O. promises its willingness to "serve America well in the busy years of post-war."

A second advertisement shows a boy and a girl in a sweet shop. "Over a soda or a 'coke,' young America is planning strategy to win the war," the caption suggests, and,

taking cognizance of youth's tendency to criticize matters worldwide and national, the advertisement observes, "They'll appreciate the vision and progressiveness that promises even finer rail services for the future. . . . The B. & O. will be well-equipped and willing to serve the busier modern world ahead . . . planned with the help of young America."

All advertisements recognize that the reflections of the young public today will have an important bearing on their thinking in the years to come.

The previous series run by the railroad, begun in March, 1943, the method of approach was strictly "community"—with the relation being drawn between the railroads and indispensable community services, such as schools, churches, banks, police and fire departments. Successive advertisements linked railroad services to homely, everyday experiences.

Joint A. S. M. E. and W. S. E. Meeting in Chicago

The Transportation division, Chicago section, of the American Society of Mechanical Engineers and the Transportation committee of the Western Society of Engineers will hold a joint meeting at the Central Y. M. C. A., Chicago, at 7:30 p. m., on Monday, April 24, at which time the general subject "Basic Thermal Aspects of Propulsion Equipment" will be presented by John I. Yellot, director, Illinois Institute of Technology. Professor Yellot will place particular emphasis on locomotive requirements and possibilities.

Among other supplementary speakers, L. P. Michael, chief mechanical engineer of the Chicago & North Western, will discuss the subject with reference to gas-turbine locomotives. R. M. Ostermann, vice-president, Superheater Company, will preside over the meeting for the A. S. M. E. and F. A. Hess, assistant to the general manager of the Indiana Harbor Belt, will serve as co-chairman for the W. S. E.

Fumes From Burning Air Filter Endanger Passengers

The presence of mind of porter P. O. Morgan of the Pullman sleeping car DeWitt averted what might have been the fatal result of a fire in the filter unit of the intake of the car's air conditioning system early on the morning of April 2. This car was included in the Seaboard Air Line's southbound train No. 191, "The Palmland," en route from New York to Florida. As the train was leaving the Union Station at Washington, D. C., to pass through the tunnel leading south, the porter discovered that smoke and fumes were spreading through the car and promptly stopped the train.

It was discovered that eight passengers had been overcome by the products of combustion of an oiled filter pad, which had become ignited. The affected passengers and the porter were given treatment in the station's emergency facilities and later those in need of further attention were transferred to hospitals.

An investigation by railroad and Pullman officers did not immediately disclose the cause of the fire, which was the first of this nature known to the staff at the Washington terminal. The Association of American Railroads issued a statement to explain that the fumes that affected people on the car were not poisonous gases from the cooling mechanism, but were produced by the burning filter pad and spread through the car by the blower fans. It went on to emphasize the fact that Pullman cars which are fitted with a mechanical compressor cooling system employ a non-poisonous, non-inflammable refrigerant, so that no harmful results would follow an accidental leak in such a refrigerating system. As a matter of fact, however, the car involved was cooled by ice, and no chemical refrigerant was used.

Sorensen of O. D. T. to Speak at N. Y. Railroad Club

"Railroading Under the Spur of War" is the title of an address to be given by Associate Director A. L. Sorensen (Division of Materials & Equipment Requirements, Office of Defense Transportation, Washington, D. C.), at the next meeting of the New York Railroad Club, April 20, at 7:45 p. m., Engineering Societies building, 33 West 39th street.

Allows Lake Operations Without Permits Until May 15

The Office of Defense Transportation announced April 4 that until May 15 permits for the movement of vessels on the Great Lakes will not be required. Suspension of the requirement, which was effected by Suspension Order ODT 25A-1, is designed to allow the operators of ships on the lakes complete freedom in moving their cargoes as the navigation season gets under way, it was explained.

February Truck Traffic

The volume of freight transported by motor carriers in February decreased 6.6 per cent under January but showed an increase of 0.5 per cent above February, 1943, according to American Trucking Associations.

Comparable reports, received by A. T. A. from 315 truckers in 47 states and the District of Columbia, showed that these carriers transported an aggregate of 2,163,016 tons in February, as against 2,315,131 tons in January, and 2,152,258 tons in February, 1943. The A. T. A. index, based on the 1938-1940 average monthly tonnage of the reporting carriers, was 173.01 for February, compared with January's 182.08.

Representation of Employees

The Pullman Car Employees' Association of the Repair Shops has defeated the challenging Congress of Industrial Organizations' United Transport Service Employees of American and thereby retained the right to represent mechanical, labor and storehouse non-clerical employees of the Pullman Company's repair shops. The victory was by a vote of 1,527 to 1,157 in a recent election, as a result of which the National Mediation Board has certified that "no change in representation is desired by these employees."

In other recent elections, the Brotherhood of Railroad Trainmen won the right to represent Central of Georgia yardmasters; while the Chicago Car Interchange Bureau's carmen (including coach cleaners), their helpers, and apprentices have chosen the Brotherhood of Railway Carmen of America, operating through the Railway Employees Department, American Federation of Labor.

Capital Expenditures Declined in 1943

(*Continued from page 691*)

capital expenditures in 1943 totaled $18,493,000 or nearly three times that spent for that purpose in the preceding year. For yards and sidings, expenditures in 1943 totaled $39,254,000 compared with $43,330,000 in the year before, and for heavier rail the railroads spent $32,227,000, or a decrease of $873,000 under such expenditures in 1942. In addition, the railroads spent $6,229,000 in 1943 for additional ballast and $20,673,000 for bridges, trestles and culverts. Expenditures for shops and engine houses in 1943 amounted to $15,615,000, or an increase of $1,992,000 above the year before, and for station and office buildings and other station facilities $10,320,000, which was slightly less than spent for that purpose in 1942. For signals and interlockers, including telephone and telegraph lines and automatic train control, they expended $16,041,000 in the past calendar year, or an increase of $220,000 above 1942, and for other improvements, $39,449,000, or an increase of approximately $4,056,000 compared with the year before.

Last year's capital outlay of $454,282,000 was $399,551,000 less than the total of capital expenditures which had been authorized, including the carry-over from 1942. The latter amounted to $267,848,000 to which was added the $585,985,000 additional authorizations during last year to bring the 1943 total to $853,833,000. The unexpended $399,551,000 now carried over into the current year includes $214,923,000 for equipment and $184,628,000 for roadway and structures.

Is This the Oldest R.R. Employee in Point of Service?

Except for a few months in 1895, William Durant Lowry, now agent for the Central of Georgia and the Western Alabama, at Montgomery (Ala.), has devoted more than 71 years to railroading. Now 84, Mr. Lowry first started work as a messenger at the age of 13, after applying "direct" for the job to Vice-President A. L. Tyler of the South Carolina, in Charleston. He later held nearly every clerical position in that agency, became freight agent at Augusta, in 1897, and in 1899, joined the Southern's auditing department. In 1911, Mr. Lowry received the appointment at Montgomery, where he is still employed. The Central of Georgia magazine calls him the "'grand old man' among railroad agents."

Motor Carrier Fire Accidents

The Interstate Commerce Commission's Bureau of Motor Carriers has made public an analysis of 1942 fire accidents involving vehicles of motor carriers subject to the

News Department continued on third right-hand page

Canadian Pacific Railway Company

SIXTY-THIRD ANNUAL REPORT

OF THE

DIRECTORS OF THE CANADIAN PACIFIC RAILWAY COMPANY

YEAR ENDED DECEMBER 31, 1943

To the Shareholders:

The financial results of operations showed a moderate improvement over 1942 which, however, was not in proportion to the increase in traffic handled. As a result of governmental regulations rates, both passenger and freight, were maintained at the 1941 level. On the other hand operating costs, both labour and material, and taxes advanced substantially.

The volume of traffic handled in 1943 surpassed what might have been thought possible a year ago. Freight, passenger, mail and express traffic all reached levels never before attained.

In meeting the enormous wartime demands for transportation your Company's organization and facilities were subjected to rigorous tests. Heavy snowfalls and sleet in the first quarter of the year created operating difficulties; the shortage of labour curtailed the maintenance programme; the amount of new equipment procurable fell short of requirements; and wartime restrictions limited the provision of additions and betterments to facilities. The continuance of heavy enlistments in the armed services of members of the staff created problems not only of replacement but also of training and supervision. In spite of all obstacles, however, your Company succeeded in meeting the demands made upon it.

The unprecedented record of operations for the year ended December 31, 1943, is set forth in detail below:

Income Account

Gross Earnings		$297,107,791
Working Expenses (including taxes)		247,896,224
Net Earnings		$49,211,567
Other Income		16,270,751
		$65,482,318
Fixed Charges	$21,795,836	
Interest on bonds of Minneapolis, St. Paul & Sault Ste. Marie Railway Company, guaranteed as to interest by your Company	703,764	
		22,499,600
Net Income		$42,982,718
Dividends on Preference Stock:		
2% paid August 3, 1943—£564,070	$2,521,391	
2% payable February 1, 1944—£564,070	2,521,391	
		5,042,782
Balance transferred to Profit and Loss Account		$37,939,936

Profit and Loss Account

Profit and Loss Balance December 31, 1942		$201,250,483
Balance of Income Account for the year ended December 31, 1943		37,939,936
		$239,190,419
DEDUCT:		
Loss on lines abandoned and on property retired and not replaced	$3,460,902	
Amount transferred to Rolling Stock Depreciation Reserve for extraordinary post-war retirements	$20,000,000	
Less amount of excess credit transferred from Steamship Depreciation Reserve	16,649,095	
	3,350,905	
Exchange adjustment in respect of steamship insurance recovered in sterling—net	780,714	
Miscellaneous—Net Debit	363,680	
		7,956,201
Profit and Loss Balance December 31, 1943, as per Balance Sheet		$231,234,218

Net Income of $42,982,718 was $2,628,451 greater than in 1942. Subsequent to the end of the year, a dividend of 2 per cent on the Ordinary Stock, amounting to $6,700,000, was declared from the earnings of the year 1943, payable March 31, 1944. This dividend is not deducted from the Profit an Loss balance at December 31, 1943, shown above.

Railway Earnings and Expenses

The comparative results of railway operations were as follows:

	1943	1942	Increase
Gross Earnings	$297,107,791	$256,864,091	$40,243,700
Working Expenses (including taxes)	247,896,224	208,676,402	39,219,822
Net Earnings	$49,211,567	$48,187,689	$1,023,878
Expense ratios:			
Including taxes	83.44%	81.24%	2.20
Excluding taxes	72.82%	71.54%	1.28

GROSS EARNINGS were $40,243,700, or 15.7%, greater than in 1942, a year in which the earnings had reached their highest previous level. In each quarter of 1943 the earnings were higher than in the corresponding quarter of any previous year in your Company's history.

FREIGHT EARNINGS increased by $22,045,259, or 11.3%. This result can be attributed principally to further expansion of the Dominion's industrial output, the enlarged export trade brought about by improved shipping conditions and the development of heavy grain movements both to Atlantic coast ports for export and to points in Eastern Canada and the United States to provide winter feed for livestock. Owing to the joint policy of the Canadian and United States Governments in diverting more ship tonnage to the grain traffic, it was possible to transport to lake ports a large amount of the grain which had accumulated in country and terminal elevators.

Earnings from grain and grain products increased $12,200,000, or 37%. Grain handlings on your Company's lines were 257 million bushels, compared with 181 million bushels in 1942, and were slightly in excess of the 1925-1929 average of 254 million bushels. It is estimated that the wheat remaining to be moved by all railways from the Prairie Provinces amounted to 470 million bushels at the end of the year, approximately 60 million bushels less than at the end of 1942.

Ton miles for the year totalled 24,950 million, compared with 22,600 million in 1942 and 18,423 million in 1928. Owing to greater dispatch in the handling of cars the large increase over 1928 was actually accomplished with 5 million less car days. The average revenue per ton mile was 0.87 cents, showing little change from last year's figure of 0.86 cents.

PASSENGER EARNINGS increased by $11,830,792, or 30.1%. Owing to continued heavy movements of the armed forces and a sustained high level of civilian travel, the volume of passenger traffic surpassed previous records. The average passenger journey of 150 miles compared with 156 miles in 1942.

OTHER EARNINGS increased by $6,367,649, or 29.4%. Express revenues were the largest since 1921. Revenues from sleeping and dining cars, from news services and from demurrage all reflected the general increase in business activity and travel.

WORKING EXPENSES increased by $39,219,822, or 18.8%. Exclusive of taxes, the increase in expenses was $32,592,157, and the ratio of expenses to gross earnings was 72.82% compared with 71.54% in 1942. Several factors contributed to the increase in the ratio. The wartime cost-of-living bonus paid to employees amounted to approximately $14,000,000, an increase of $2,000,000 over last year. The bonus rate of $4.25 per week which had been in effect since August 15, 1942 was increased under Order-in-Council P.C. 5963 to $4.60 per week, effective November 15, 1943. Higher prices for locomotive fuel added approximately $3,000,000 to the year's expenses and many other material costs were higher. As a result of the extreme weather conditions of the first quarter of the year, there was an increase of $1,200,000 in the cost of snow and ice removal.

MAINTENANCE OF WAY AND STRUCTURES EXPENSES increased by $8,840,465. During the year 1,736,337 treated and 1,252,608 untreated ties were placed in track, 39 single track miles of new

rail were laid, and rock ballast was applied to 72 miles of track. Tie plates to the number of 2,894,905 and rail anchors to the number of 1,341,298 were installed. The examination of rails for hidden defects by the Sperry detector car covered 8,890 miles of track.

Shortages of labour and material continued to be acute and the year's maintenance programme was again restricted in the main to immediate traffic requirements. The amount set aside in the year's accounts for special maintenance reserve was $3,500,000. Depreciation on bridges, buildings and other structures was accrued for a full year, and amounted to $5,640,423.

MAINTENANCE OF EQUIPMENT EXPENSES increases by $8,133,266. Locomotive repairs involved an expenditure of $12,608,896 and included the shopping of 703 engines for heavy repairs. The maintenance of freight train cars cost $11,750,766 and included heavy repairs to 24,857 cars. Cast steel truck frames were applied to 1,745 cars, replacing arch bar truck frames. Stabilized trucks were applied to 278 refrigerator cars. Passenger train car repairs cost $7,382,426, including the general overhauling of 1,243 units. To meet the heavy demands of travel 19 buffet parlor cars and 8 compartment observation cars were converted to first class coaches. The shopping programme was limited by the necessity of keeping a maximum of equipment in service and an amount of $2,700,000 was set aside, representing the difference between the actual expenditure and that which would have been made under similar traffic conditions in peacetime. Charges for depreciation amounted to $13,953,484 for rolling stock, $1,549,119 for shop and power plant machinery, and $126,080 for inland steamships. At the end of the year, 92.4% of locomotives and 97.6% of freight cars were in serviceable condition, compared with 93.2% and 97.7% respectively at the end of 1942.

TRANSPORTATION EXPENSES increased by $12,733,268. The ratio to gross earnings was 32.18% compared with 32.27% in 1942 and for the fourth successive year constituted a new low record. Increased wage costs and higher prices for fuel and other supplies added to the expenses of train operation but these were wholly offset by the increased earnings per train mile. Slight variations in operating factors are shown by the following indices:

	1943	1942
Freight train load—gross tons	1,729	1,711
Freight car load—tons	33.7	31.9
Freight train fuel consumption—pounds per 1,000 gross ton miles	106	101
Freight train speed—miles per hour	15.9	16.7
Gross ton miles per freight train hour	27,435	28,514
Passenger miles per train mile	132	110

Tons carried one mile and passengers carried one mile increased 10% and 25% respectively but the additional business was handled with an increase of only 5% in train miles.

OTHER WORKING EXPENSES increased by $9,512,823. Railway tax accruals amounted to $31,548,645, an increase of $6,627,665, and included a provision of $27,750,000 for the estimated amount of Dominion Income and Excess Profits taxes, in respect of which the final liability has not yet been determined. Traffic expenses were decreased by $88,630. Expenses of dining and buffet service increased $615,635, and news service expenses were greater by $546,951.

Other Income

Other Income amounted to $16,270,751, an increase of $409,717, or 2.6%.

Dividend income increased by $31,964. Dividends received from The Consolidated Mining and Smelting Company of Canada, Limited, were again at the rate of $2.50 per share.

Net income from interest, exchange, separately operated properties and miscellaneous sources increased by $401,261. Improved economic conditions in Western Canada resulted in a significant increase in interest payments received by your Company on its land contracts. Interest income from the steamship replacement and maintenance funds was considerably larger, while the Exchange account showed a marked decrease, principally due to changes in the trend of interline traffic. The continued development of important war projects in Northwestern Canada brought increased earnings to the Northern Alberta Railways, from which your Company benefited.

Net earnings of ocean and coastal steamships were $2,133,530, a decrease of $754,748. There was a marked reduction in ocean earnings owing to higher costs and a smaller fleet, but this was partially offset by an increase of $1,242,888 in the net earnings of coastal steamships.

Net earnings of hotel, communication and miscellaneous properties increased by $731,240. All of your resort hotels were closed during the 1943 season, but new records of business volume, largely arising out of travel connected with the armed services and war industry, were established at many of your Company's large city hotels, and earnings showed an improvement of $503,336. Net earnings of the communications department increased by $260,533. The high level of general business activity was responsible for a considerable increase in ordinary commercial messages, and in addition new contracts were entered into for the lease of long distance telephone facilities. Postal Telegraph, Inc., your Company's principal connection in the United States, was merged with The Western Union Telegraph Company on October 8, and mutually satisfactory arrangements were completed for interchange of traffic with the new system. Net earnings of miscellaneous properties decreased $32,629. The provision for depreciation of hotel, communication and miscellaneous properties amounted to $2,651,357.

Fixed Charges and Guaranteed Interest

Fixed charges decreased by $1,159,667, principally as a result of the debt retirements made without refunding. Guaranteed interest on Soo Line Bonds decreased $35,189.

Dividends

Dividends amounting to $5,042,782, being at the rate of 4% on the non-cumulative Preference Stock, were declared out of the Net Income for the year.

A dividend of 2 per cent on the Ordinary Stock, payable March 31, 1944, was also declared from the earnings of the year. This represents a disbursement of 50 cents a share, amounting to $6,700,000. Provision for the payment of this dividend is not reflected in the financial statements for 1943, as the declaration was made after the end of the year. The last previous year in respect of which dividends were declared on the Ordinary Stock was 1931, the final quarterly payment of 1¼% being made on April 1, 1932.

Profit and Loss Account

The major item in the charge of $3,460,902 for loss on lines abandoned and on property retired and not replaced pertains to the retirement of leased spur lines and trackage of the Columbia & Western Railway Company which formerly served certain mining properties in the Province of British Columbia.

A net charge of $3,350,905 to Profit and Loss resulted from an appropriation of $20,000,000 made for extraordinary post-war retirements of rolling stock and a credit transfer of $16,649,095 from steamship depreciation reserve. The appropriation to augment rolling stock depreciation reserve was made in anticipation of charges which will arise when it becomes possible to replace certain types of rolling stock by units incorporating the latest technological improvements. The transfer from steamship depreciation reserve was necessary to correct an unbalanced relationship between that reserve and steamship investment. This condition had developed through successive losses in the fleet, accompanied by credits to the reserve of the entire amount recovered in respect of basic values of steamships sold or lost, which under the British Government War Risk Re-insurance Scheme included a substantial element representing compensation for increased cost of tonnage replacement.

Land Accounts

During the year 135,352 acres of agricultural lands were sold for $702,470, an average price of $5.19 per acre. Included in this total were 224 acres of irrigated land, sold at an average price of $29.74 per acre.

Cash received on land account totalled $4,651,399, including $706,345 for rents and royalties from coal lands and gas and petroleum rights. The generally improved cash income position of Western farmers is reflected in increased land account receipts. Disbursements for land and irrigation expenses, including taxes, were $1,391,297, leaving net cash receipts of $3,260,102. This was an increase of $2,099,354 over the previous year.

The concessions granted in 1942 to land contract-holders were continued, with minor exceptions, throughout the 1943 crop year. The total amount of assistance to holders of farm contracts since 1932, when this policy was inaugurated, has been $21,311,811.

Balance Sheet

A reclassification of certain assets has been effected in order to group them more consistently in relation to the manner of reporting the earnings and expenses for the various properties. The investment in Hotel, Communication and Miscellaneous Properties has been segregated and shown under a separate caption. Investments in all controlled companies, other than in those leased railway companies which are comprised in the railway system from which your Company's gross earnings are derived, have been merged under a single caption "Stocks and Bonds—Controlled Companies." Investments in Jointly Controlled Railway Companies have been transferred to Miscellaneous Investments.

Finance

Serial Equipment obligations to the amount of $4,154,769 matured and were paid, and Consolidated Debenture Stock to the amount of $268,000 pledged under Series "D" was released and cancelled. On January 25, the balance of $3,085,385 due to the Dominion Government on the Equipment Lease dated December 15, 1937, was prepaid. Securities and cash on hand with the Trustee of the Equipment Trust maturing July 1, 1944, increased by $2,457,944, and in addition the Trustee, under authority of the Trust Agreement, purchased and cancelled $665,000 of the Equipment Trust Certificates.

On March 1, The Union Trust Company of Pittsburgh as Trustee entered into an agreement under which $18,000,000 principal amount of Equipment Trust Certificates was issued, guaranteed as to principal and interest by your Company. This issue, designated as Series "F", maturing in equal semi-annual instalments from October 1, 1943 to April 1, 1953, inclusive, is payable in currency of the United States of America and bears interest at 3% per annum. Under the arrangements for this issue, equipment which cost, at the time of construction, $26,000,904 in Canadian funds, is leased to your Company at a rental equal to the instalments of principal of and interest on the Equipment Trust Certificates.

The $10,500,000 3% Convertible Collateral Trust Bonds, maturing October 1, 1945, were called for redemption on April 1, and the $19,000,000 4½% Collateral Trust Gold Bonds maturing September 1, 1946, were called for redemption on September 1. The funds to meet these two issues were deposited with the respective Trustees. During the year $120,500 principal amount of matured but unredeemed Collateral Trust Bonds was paid, and the amount remaining unpaid on an aggregate principal amount of $1,100,500 of such issues has been deposited with the respective Trustees and eliminated from current liabilities. In addition the following securities were purchased and cancelled—3½% Convertible Collateral Trust Bonds due 1951 to the amount of $2,000,000 and 5% Collateral Trust Gold Bonds due 1954 to the amount of $600,000. Consolidated Debenture Stock to the amount of $41,183,200, pledged as collateral to the issues of Collateral Trust Bonds of which the above mentioned bonds formed part, was released and cancelled.

On February 1, 4% Serial Secured Notes to the amount of $350,000 and 3% Serial Secured Notes to the amount of $287,400 were redeemed, and Consolidated Debenture Stock to the amount of $1,092,000 was released and cancelled. On March 10, $3,750,000 principal amount of 4% Notes was refunded by the issue of notes to the same amount, at the reduced rate of 3%, such notes being secured in the same manner and maturing on the same dates as the notes retired. In connection with this refunding Consolidated Debenture Stock to the amount of $700,000 was released and cancelled.

On December 1, 3½% Serial Secured Notes due December 1, 1945, to the amount of $2,000,000 were prepaid. On such prepayment Consolidated Debenture Stock to the amount of $1,200,000 was released and cancelled, and 60,000 shares of capital stock of The Consolidated Mining and Smelting Company of Canada, Limited were released.

During the year, $156,200 principal amount of matured but unredeemed 4½% Sinking Fund Note Certificates were paid. Provision was made to meet the unpaid balance of this issue aggregating in principal amount $503,700 with a corresponding reduction in current liabilities.

On October 22, the 5% First Mortgage Debenture Bonds of the Lacombe and North Western Railway Company amounting to $273,700 matured and were paid.

The financial transactions referred to above resulted in the net retirement of $28,981,398 of bonds, notes and other obligations, the discharge of a contingent liability of $273,700, reduction of $44,443,200 in the amount of Consolidated Debenture Stock pledged as collateral, and the return to the Company of the balance of the pledged capital stock of The Consolidated Mining and Smelting Company of Canada, Limited.

Pensions

Charges to working expenses for your Company's proportion of pension allowances, its contribution to the Pension Trust Fund and levies in respect of employees who come under the United States Railroad Retirement Act amounted to $4,592,683. In view of the further rise in the level of employment and increased rates of pay, your Directors authorized an increase from $700,000 to $1,000,000 in the special contribution made annually to the Pension Trust Fund to assist in meeting the anticipated peak period of cost under the pension plan.

The number of employees pensioned during the year was 776. After allowing for deductions owing to death and discontinuance from other causes, the total number on the pension payroll at the end of the year was greater by 412 than at the end of 1942.

Distribution by ages was as follows:

Under 60 years of age	317
From 60 to 64 years of age, inclusive	652
From 65 to 70 years of age, inclusive	2,440
Over 70 years of age	1,805
	5,214

Wage Negotiations

The representatives of all classes of employees affiliated with international organizations presented to the Canadian railway companies a request for increases in basic rates of pay sufficient to establish the same, or substantially the same, rates of pay as those paid like classes of employees of United States railways. The companies replied that they were not prepared to enter upon negotiations on the basis of this request, it being their view that it disregarded the wartime wage policy of the Government. On September 15, the employees applied to the National War Labour Board for an order directing the railways to grant the increases, and later filed a brief in support of the application. A reply to the employees' brief is in the course of preparation.

Canadian Pacific Air Lines, Limited

During the year further steps were taken by your subsidiary company, Canadian Pacific Air Lines, Limited, in the development of a co-ordinated air transportation system. For the movement of essential personnel and cargo carried in connection with vital continental defence establishments in Northwestern and Northeastern Canada, additional modern aircraft were allocated to your Air Lines. To provide for the traffic referred to, extensive new radio communication installations were also required, as well as additions to ground equipment, shops and airport facilities. To finance these capital expenditures your Company advanced an amount of $2,027,000 during the year.

Transport planes of your Air Lines were flown 6,133,751 miles in revenue service during 1943, an increase of 17% over the previous year. Passenger miles totalled 24,031,000, an increase of 82%; mail pound miles were 926,994,000, an increase of 91%; and freight pound miles were 1,825,774,000, an increase of 18%.

That part of the activities of the British Commonwealth Air Training Plan involving your Air Observer Schools and Overhaul Plants was considerably expanded during the year. Aircraft operated by the personnel of your Air Observer and Elementary Training Schools flew over 57,000,000 miles. At the end of the year your Air Lines, including the Training Schools and the Overhaul Plants, had approximately 9,500 employees.

While there was a substantial increase in the volume of traffic handled as compared with the previous year, expenses increased in greater degree, owing largely to the cost of operating and maintaining aircraft under existing wartime conditions. In addition, the cost of pilot training was heavy, and there were non-recurring charges for reorganization and development. The operations for the year resulted in a moderate loss, which, however, was not unreasonable in all the circumstances. Provision for the accumulated loss to the end of the year, amounting to $236,573, was made by a charge to Other Income.

Detailed study has been made of the possibilities of further development of your Company's air activities, and a number of new routes and extensions of existing routes in the international as well as the domestic field will be proceeded with whenever this is permitted by Government policy.

The interim policy announced by the Government would exclude private operators from the field of international operation, while in the United States many applications by competing air lines for licenses to operate between points in the United States and points in Canada are being pressed for hearing before the Civil Aeronautics Board.

Your Directors feel that, if Canada is to occupy the place in air transportation which its geographical situation and the abilities and experience of its citizens in this field justify, there is urgent need of an air policy which will afford Canadian industry an opportunity equal to that enjoyed by the citizens of other countries.

Minneapolis, St. Paul & Sault Ste. Marie Railway Company

Net earnings of this Company were $5,141,093, or $1,156,659 greater than in 1942. Gross earnings amounted to $26,585,111, an increase of $3,954,269. The increase in earnings resulted primarily from business connected with the war. Working expenses for the first time included charges for depreciation of road property, amounting to $484,977, which were made in conformity with a general order of the Interstate Commerce Commission, effective January 1, 1943. The year's expenses also included provision for the back pay, and taxes thereon, of non-operating employees covered by the wage agreements reached on January 17, 1944, and made retroactive to February 1, 1943.

The plan of reorganization which had been accepted almost unanimously by the security holders voting thereon, was confirmed by the District Court of the United States in and for the District of Minnesota, Fourth Division, on June 18, 1943. In accordance with the provisions of the plan three reorganization managers were designated to put it into effect and carry it out under the supervision and control of the Court and subject to any requisite approval of the Interstate Commerce Commission. One of the reorganization managers was designated by your Company.

Preparatory steps in connection with the issue of the new securities are now being taken, and it is expected that they will be available in the near future.

The Duluth, South Shore and Atlantic Railway Company

Net earnings of this Company were $1,000,744, compared with $946,969 in 1942. Gross earnings were $4,300,194, an increase of $156,318. Passenger and express traffic both exceeded 1942 levels, but freight traffic declined slightly, owing to less ore being handled.

The District Court of the United States in and for the District of Minnesota, Fourth Division, delivered judgment in favour of your Company on December 27, 1943, in the action instituted by Hugh W. McCulloch and other bond holders to which reference was made in the Annual Report for the year 1940. The plaintiffs have ninety days in which to appeal against this judgment. The time within which a plan of reorganization of the South Shore shall be filed has been extended to June 1, 1944.

Rates and Services

The record volume of traffic moving necessitated the imposition of further limitations on passenger service by the Transport Controller. Parlor car service was suspended between the cities of Ottawa, Montreal and Toronto, and restrictions were placed on the number of sleeping cars and the number of extra passenger trains and of extra sections of regular passenger trains which could be operated. Effective April 15, he also directed Canadian railways to cease selling reduced fares for public holidays and for week-end travel. An order curtailing train service to summer resorts was followed shortly afterwards by the suspension of all tourist excursion fares.

In the interest of greater utilization of freight cars and other transportation facilities and of expediting the movement of freight traffic, the Transport Controller also issued orders requiring the loading of freight cars to their maximum capacity and prescribing minimum weight loads for specific commodities.

In conformity with the regulations of the Wartime Prices and Trade Board, freight rates on Canadian traffic remained at the level in effect in the base period in 1941. An annual loss of approximately $2,000,000 in revenue on international traffic will be sustained by your Company as a result of the suspension from May 15, 1943, by the Interstate Commerce Commission, of the general freight rate increase which had been granted to United States carriers in 1942.

New rolling stock placed in service during the year included 5 Pacific type and 20 Mikado type locomotives; 5 Diesel switching locomotives; 1,400 box and 500 70-ton gondola cars; and 50 cabooses.

To provide for the greatly increased patronage of Windsor Station in Montreal, a number of improvements to accommodate and serve the travelling public have been completed. The station coffee shop has been remodelled and its capacity doubled, a public announcement system has been installed, and the main entrance to the station has been structurally altered to improve its appearance and to increase the accessibility of the concourse to travellers.

The installation of the automatic block signal system between Chapleau and Schreiber, designed to expedite traffic on the Algoma District, was nearing completion by the end of the year. This improvement will not only increase the capacity of this line, but will give greater safety and dispatch in operation.

Wartime Activities

The transportation needs of the Dominion continued to expand in 1943 owing to the increase in production of munitions of war and the intensification of hostilities abroad. Your Directors report with satisfaction that in no instance did traffic congestion develop or failures occur in supplying essential transportation. The record of the year's activities again demonstrates that efficient rail transportation is a vital force in the prosecution of the war.

The labour turnover was more than three times the normal rate, and operating difficulties were for this reason accentuated. The training of inexperienced employees has presented a serious problem to your officers and senior employees. Patrons of your Company have helped greatly by accepting the unavoidable inconveniences which attended the movement of passenger and freight traffic during the year.

Railway facilities were extended to meet the demands of expanded production. During the year 34 miles of industrial tracks were provided to serve 104 new plants throughout the Dominion.

The Valentine tank project, which was begun at your Company's Angus Shops in 1940, was completed during the year. A total of 1,420 tanks, including large quantities of spare parts required for battle damage repairs and ordinary maintenance requirements, were produced at a cost which compares most favourably with results achieved by other contractors. Shop facilities released from tank production are now being used for the production of main marine engines and condensers for frigates and corvettes along with many other important items for the Navy.

Naval guns and mountings of various types continued to be produced in quantity at the Ogden Shops in Calgary, involving the full use of the former locomotive erecting shop at that point.

The inspection of locomotives and rolling stock, which are being manufactured in Canada for the Indian State and the Jamaica Government Railways, was undertaken by your Company. In addition to specifying materials and approving workmanship, the contract with the Indian State Railways calls for supervision of re-erection of the locomotives when they reach the Far East.

The organization and experience of your purchasing department has been at the disposal of the Department of Munitions and Supply and the Navy, Army & Air Force Institutes since the outbreak of the war.

Four members of the staff of your Air Lines were awarded the Air Medal of the United States of America for meritorious service in the search for, and rescue of, army personnel from a stranded transport plane.

Your ocean steamships and part of your coastal fleet were operated throughout the year under the Ministry of War Transport of the United Kingdom. Some 53 honours have been won by officers and men of your fleet in various parts of the world. The exploits for which these awards have been made reveal the leadership and resourcefulness of the men serving in your ships.

Patriotic appeals and campaigns have evoked enthusiastic response from officers and employees. In the five Canadian Victory Loans, your Company and its employees have subscribed a total of $90,756,850. Of this amount $67,142,000 has been taken by your Company and by its Pension Fund and the Pension Fund

of the Canadian Pacific Express Company. An average of 31,382 officers and employees were purchasers of War Savings Certificates throughout the year under the payroll deduction plan.

Quebec Conference

Your Company had the privilege of setting aside the Chateau Frontenac for the accommodation of more than seven hundred persons engaged in connection with the Conference of the leaders of the United Nations which took place in Quebec in August. A number of special trains were operated to provide transportation for the distinguished delegates and their staffs. The exceptional suitability of this famous hotel for the purpose, and the well co-ordinated services of your Company, including rail, communications, air transport and express, contributed greatly to the success of the Conference. Appreciation for your Company's part in the arrangements of the meeting has been expressed by Conference principals, as well as by Government officials of the countries concerned.

It was fitting that such a rare distinction should have fallen to the Chateau Frontenac in the year which marked the fiftieth anniversary of its opening in 1893. In recognition of this unique event in its history, an etching of the Chateau appears on the front cover of the Report.

Reconstruction and Re-establishment

A good deal of attention is now being directed to post-war economic plans. The great extent of the unused natural resources, and the opportunity for a considerable increase in population to benefit by them, combine to give ground for the assumption that it is possible to plan for an expanding economy in Canada. The study of post-war activities by your Company was assigned to a committee of senior officers, and an interim report was prepared which by request was presented during the year to the Special Committee of the House of Commons on Reconstruction and Re-establishment.

Your Company expects to play its full part in the post-war internal and external commerce of Canada, and the instructions to the committee of officers were to prepare plans and schedules of improvements to your property to place it in a position to participate fully in that period of active employment and business expansion which may reasonably be anticipated to follow upon the termination of hostilities. The studies are, of course, concerned solely with such improvements or extensions as are considered prudent investments.

Your Directors believe that it will be wise to plan for a programme of five to ten years which would, in addition to its direct benefit to the earning power of your property, act as a valuable stimulus to employment and business activity in the country.

Capital Expenditures

In accordance with licenses granted to His Majesty's Government in the United Kingdom, measures have been taken looking toward the replacement of some of the Beaver class freight vessels lost by enemy action during the war, and for this purpose, in anticipation of your confirmation, your Directors authorized an appropriation of $11,409,900. Other capital appropriations for the year 1943 which were approved by your Directors, subject to your confirmation, totalled $4,371,388, of which $2,967,094 was for the purchase of 650 50-ton wood-lined box cars.

Your approval will also be requested for capital appropriations of $24,478,980 for the present year. The principal items are as follows:

Replacement and enlargement of structures in permanent form	$290,430
Additions and betterments to stations, freight sheds, coaling and watering facilities and engine houses	2,356,437
Tie plates, rail anchors and miscellaneous roadway betterments	1,186,540
Replacement of rail in main and branch line tracks with heavier section	999,418
Installation of automatic signals	726,582
Additional terminal and side track accommodations	337,571
Additions and betterments to shop machinery	692,577
New rolling stock	16,800,239
Additions and betterments to rolling stock	545,008
Additions and betterments to communication facilities	486,927

The appropriation for new rolling stock makes provision for 25 Pacific and 10 Mikado type road locomotives, 10 Diesel switching locomotives, 2,190 freight car units and 3 work units.

Branch Lines

In order further to serve the fruit-growing district in Southern British Columbia it is proposed to seek the authority of Parliament to extend the line of the Kettle Valley Railway Company, which is leased to your Company, from Haynes to Osoyoos, a distance of approximately 10 miles, and to issue securities not exceeding $50,000 per mile in respect of this extension.

Revision of Traffic By-Laws

In view of amendments to the Railway Act and changes in traffic conditions, it was deemed advisable that the Traffic By-Laws of your Company should be revised and your Directors have approved certain appropriate changes therein, involving the repeal of By-Laws Nos. 64, 76, 84, 89 and 94 and the enactment in lieu thereof of By-Law No. 99 containing Traffic Rules and Regulations of your Company, which will be submitted for your approval and confirmation.

Stock Holdings

The holdings of the Capital Stock of your Company at December 31 were as follows:

	Ordinary		Preference		Total
	No. of Holdings	Percentage of Stock	No. of Holdings	Percentage of Stock	Percentage of Stock
Canada	25,796	19.12	163	.61	13.64
United Kingdom and other British	16,067	53.42	26,487	96.35	66.14
United States	13,180	21.23	75	.33	15.04
Other Countries	3,442	6.23	581	2.71	5.18
	58,485		27,306		

Changes in Directorate

It is with deep regret that your Directors record the loss by death during the year of two members of the Board, Sir Edward Wentworth Beatty, G.B.E., of Montreal, Chairman of the Company, in March, and the Rt. Hon. Reginald McKenna, P.C., of London, in September.

Fitting tributes were paid to the outstanding services rendered by Sir Edward to your Company and to the Dominion of Canada, in a resolution passed by the Directors at their meeting held in April, 1943, and also by the President and the Shareholders as incorporated in the Report of Proceedings of the Annual General Meeting held at Montreal in the following month.

The Rt. Hon. Reginald McKenna, P.C., was appointed a Director in 1926. During his association as a member of the Board resident in London, Mr. McKenna gave counsel and rendered service of the highest value to your Company and to the Dominion of Canada. He occupied a distinguished position in public affairs, and he will be regarded as a great Imperial statesman who showed the noblest qualities of leadership when the safety and freedom of all men were in dire peril.

Mr. George W. Spinney, C.M.G., was appointed a Director and Mr. Aimé Geoffrion, K.C., was appointed a member of the Executive Committee to fill the vacancies caused by the death of Sir Edward Wentworth Beatty.

Retiring Directors

The undermentioned Directors will retire from office at the approaching annual meeting. They are eligible for re-election:

Mr. D. C. Coleman
Hon. Charles A. Dunning, P.C.
Mr. John W. Hobbs
Mr. R. S. McLaughlin
Sir Edward R. Peacock, G.C.V.O.

Officers and Employees

The officers and employees of your Company in all branches of its service have evinced their keen appreciation of the vital importance of transportation to the war effort of the United Nations, and your Directors gratefully acknowledge the competence and fidelity with which they have met the heavy demands of the past year. The repatriation, during the year, of several of your employees who had been interned in the Far East afforded great satisfaction. Anxiety is felt for those who still remain in enemy hands.

Your Directors report with pride that, up to the end of the year, 17,067 employees of your Company were on active service with the armed forces of the United Nations. It is a matter of deep regret that 377 of these employees have lost their lives in the common cause.

For the Directors,

D. C. Coleman,
President.

Montreal, March 13, 1944.

Canadian Pacific Railway Company

General Balance Sheet, December 31, 1943

Assets

PROPERTY INVESTMENT:		
Railway, Rolling Stock and Inland Steamships	$810,442,460	
Improvements on Leased Property	96,813,831	
Stocks and Bonds—Leased Railway Companies	129,693,871	
Ocean and Coastal Steamships	36,971,006	
Hotel, Communication and Miscellaneous Properties	101,872,734	
		$1,175,793,902
OTHER INVESTMENTS:		
Stocks and Bonds—Controlled Companies	$ 65,402,759	
Miscellaneous Investments	33,949,193	
Advances to Controlled and Other Companies	32,142,105	
Mortgages Collectible and Advances to Settlers	2,290,803	
Deferred Payments on Lands and Townsites	26,659,459	
Unsold Lands and Other Properties	20,553,229	
Maintenance Fund	13,450,000	
Insurance Fund	10,387,121	
Steamship Replacement Fund	47,879,560	
		252,714,229
CURRENT ASSETS:		
Material and Supplies	$ 30,079,986	
Agents' and Conductors' Balances	14,096,152	
Miscellaneous Accounts Receivable	19,815,732	
Dominion of Canada Securities	17,021,872	
Cash	43,525,516	
		124,539,258
UNADJUSTED DEBITS:		
Insurance Prepaid	$ 216,051	
Unamortized Discount on Bonds	1,110,811	
Other Unadjusted Debits	2,906,234	
		4,233,096
		$1,557,280,485

TO THE SHAREHOLDERS,
CANADIAN PACIFIC RAILWAY COMPANY:

We have examined the Books and Records of the Canadian Pacific Railway Company for the year ending December 31, 1943, and having compared the Balance Sheet and related schedules therewith, we certify that in our opinion it is properly drawn up so as to show the true financial position of the Company at that date, and that the Income and Profit & Loss Accounts correctly set forth the result of the year's operations.

The records of the securities owned by the Company at December 31, 1943, have been verified by an examination of those securities in the custody of its Treasurer and by certificates received from such depositaries as are holding securities for safe custody for the Company.

PRICE, WATERHOUSE & CO.,
Chartered Accountants.

Montreal, March 10, 1944.

Liabilities

CAPITAL STOCK:		
Ordinary Stock	$335,000,000	
Preference Stock—4% Non-cumulative	137,256,921	
		$472,256,921
PERPETUAL 4% CONSOLIDATED DEBENTURE STOCK	$397,826,229	
Less: Pledged as collateral to bonds, notes and equipment obligations	102,388,000	
		295,438,229
FUNDED DEBT	$133,313,600	
Less: Securities and cash deposited with Trustee of 5% Equipment Trust	17,395,856	
		115,917,744
CURRENT LIABILITIES:		
Pay Rolls	$ 4,771,158	
Audited Vouchers	10,450,212	
Net Traffic Balances	4,237,461	
Miscellaneous Accounts Payable	3,398,302	
Accrued Fixed Charges and Guaranteed Interest	1,629,973	
Unmatured Dividend Declared	2,521,391	
Other Current Liabilities	21,050,660	
		48,059,157
DEFERRED LIABILITIES:		
Dominion Government Unemployment Relief	$ 2,447,223	
Miscellaneous	3,648,720	
		6,095,943
RESERVES AND UNADJUSTED CREDITS:		
Maintenance Reserves	$ 13,450,000	
Depreciation Reserves—Road	83,630,820	
—Rolling Stock	115,859,100	
—Steamship	26,856,648	
—Hotel and Other	12,888,176	
Investment Reserves	17,648,413	
Insurance Reserve	10,387,121	
Contingent Reserves	5,105,446	
Unadjusted Credits	5,353,560	
		291,179,284
PREMIUM ON CAPITAL AND DEBENTURE STOCK		34,565,952
LAND SURPLUS		62,533,037
PROFIT AND LOSS BALANCE		231,234,218
		$1,557,280,485

ERIC A. LESLIE,
Vice-President and Comptroller.

(*News continued from page 695*)

jurisdiction of the commission. It was prepared under the general supervision of G. R. Wellington, chief of the Bureau's Section of Safety, by H. H. Allen, assistant chief.

As pointed out in Bureau Director W. Y. Blanning's letter of transmittal to the commission's Division 5, similar reports covering 1940 and 1941 fire accidents were released in October, 1942, and August, 1943, respectively. "While the number of accidents involving fire seems to be decreasing," Mr. Blanning went on, "the seriousness, both as regards total property damage and as regards property damage per accident and fatalities and injuries per accident is increasing."

Division 5 has authorized release of the report, but "it is not to be construed as an official expression of the views of the commission."

Club Meetings

There will be two talks on signaling at the 8 p. m., April 13 meeting of the Central Railway Club of Buffalo, N. Y., at Hotel Statler. R. B. Ellsworth, signal engineer, New York Central (Albany), and W. S. Storms, signal engineer, Erie (Cleveland), are scheduled as speakers. A special feature will be the showing of a movie of the San Francisco-Oakland Bay Bridge.

Illinois Central Study of Electronics

In keeping with the present day trend of affairs the Illinois Central has just announced a more intensive study of application of Electronic devices to railroad communication services. These subjects have received attention of Illinois Central engineers for many years, and particularly during the past five years these subjects have been assigned to P. B. Burley, assistant engineer, in the office of W. M. Vandersluis, general superintendent of telegraph and signals. More recently the trends in development in the application of electronic equipment to railroad services led to the appointment of Mr. Burley as electronics engineer with full-time assignment to this subject, under the direction of Mr. Vandersluis, this appointment being effective as of February 1. Mr. Burley is a graduate of the University of Illinois with a B. E. E. degree in 1921, since which time he has been continuously employed in the design, application, maintenance and operation of electrical and communication equipment of the Illinois Central. This recently announced electric study of the Illinois Central has been and will in the future be in coordination with the findings of the Radio Technical Planning Board, of which the Association of American Railroads is a sponsoring member.

Wants New Englander as Eastman Successor on I. C. C.

Representative Edith Nourse Rogers, Republican of Massachusetts, has written President Roosevelt, asking that he appoint a man from New England to succeed the late Joseph B. Eastman on the Interstate Commerce Commission.

"There is no member from any of the New England states on the commission," she said. "I am sure you appreciate the great need of this representation on the commission for the northeastern part of our country."

Among names mentioned for the vacancy are C. E. Childe, member of the Board of Investigation and Research; J. Edward Davey, chief of the Finance Section of the commission's Bureau of Motor Carriers; Dr. G. Lloyd Wilson, chief rate consultant, Office of Defense Transportation; and H. A. Hollopeter, traffic director, Indiana State Chamber of Commerce.

Supply Trade

Shipbuilding Division Wins Special Wartime Award

A special wartime award for accident prevention was presented to the shipbuilding division of the **Pullman-Standard Car Manufacturing Company** by the National Safety Council on April 3. The presentation of a safety plaque and "S" flag was made by N. H. Dearborn, executive vice-president of the National Safety Council at noontime ceremonies at the Calumet Harbor yards. He pointed out that despite a large increase in man-hours worked in 1943, the division held its frequency rate for deaths and permanent disabilities to 13 per cent of the average for its group and its rate for temporary disabilities to only 17 per cent. According to W. N. Barker, vice-president, the accident frequency rate of the division was 4.24, as compared with an average of 30.9 for 281 yards throughout the nation. Recently, the company won first place in the Great Lakes area in the 1943 Victory Shipbuilding Contest.

Fairbanks, Morse & Co.

The annual report of Fairbanks, Morse & Co. for 1943 shows a net profit of $2,787,439, after provisions were made for taxes amounting to $15,175,000, for special contingency reserve of $2,500,000 and for refund in the renegotiation of government business of $38,600,000. This compares with a net profit of $2,677,960 in 1942. Shipments for the year amounted to $183,764,683 as compared with $78,122,333 in 1942. Expansion of plant facilities devoted to the manufacture of diesel engines for the Navy Department, the report states, was brought to completion during the year, and the use made thereof is evident in the very large increase in the output over that of the previous year. At this time, 1,651 employees are in the armed services, and the company service flag contains 10 gold stars.

Charles H. Goddard, formerly vice-president of the Pittsburgh Reflector Company, has been appointed product manager, fluorescent fixture sales, for **Sylvania Electric Products Inc.**

The Wilmington, Del. shipyard of the **American Car & Foundry Co.** has been granted a fourth renewal of its Army-Navy "E" award and with it the right to retain the new flag with four stars for a year.

Mead W. Batchelor, works manager of the mill division, has been appointed a vice-president and **A. Dean Merwin,** sales manager of the fabricating division, has been appointed assistant secretary of the **Bridgeport Brass Company.**

Dr. V. N. Krivobok, former chief metallurgist of the Lockheed Aircraft Corporation and professor of metallurgy at the Carnegie Institute of Technology, has become associated with the development and research division of the **International Nickel Company.**

R. P. Exten, formerly production engineer of the Mechanics Universal Joint and Rockford Drilling Machine divisions of the Borg-Warner Corporation, Rockford, Ill., has been appointed executive assistant to the president of the **Young Radiator Company,** Racine, Wis.

Ernest Schleusener has been elected vice-president in charge of operations and **John P. Roche,** secretary and assistant to the president, of the **Oliver Iron & Steel Corporation.** Mr. Schleusener was graduated with a degree in mechanical engineering from the Carnegie Institute of Technology. He served in various executive capacities in the Oliver plant and in May, 1942, was appointed assistant vice-president in charge of engineering and production control. Mr. Roche was graduated from Duquesne University and the University of Pittsburgh Law School. He was recently named Pennsylvania's outstanding man of the year by the United States Junior Chamber of Commerce.

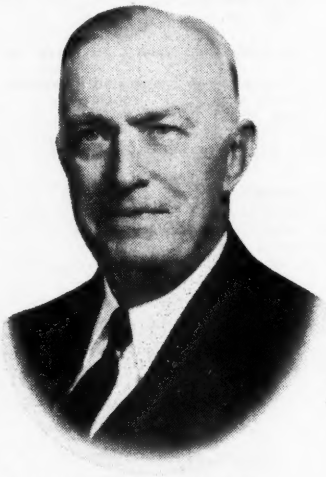
Ernest Schleusener

L. A. Bedard, formerly manager of sales for the Mount Vernon Car Manufacturing Company, has been appointed sales agent for the **American Car & Foundry Co.** with headquarters at the St. Louis, Mo. sales office. Mr. Bedard was graduated from Purdue University with a degree in mechanical engineering in 1916. He began his business career with the Mount Vernon Car Manufacturing Company and held various positions in the engineering department until he was appointed assistant mechanical engineer. He was transferred to the sales department in 1936 and appointed manager of sales in 1937.

L. A. Bedard

Herman F. Ball, president of the **Franklin Railway Supply Company** for the past 27 years, has been elected vice-chairman of the board of directors of that company, and **George W. Alcock,** vice-president, has been elected president to succeed Mr. Ball. Mr. Alcock has also been elected chairman of the board of the Balmar Corporation, a subsidiary of the Franklin Railway Supply Company, of which he was formerly president. **John N. Merkle,** executive vice-president of the Balmar Corporation, succeeds Mr. Alcock as president.

Mr. Ball began his career in 1884 as an apprentice in the Altoona, Pa., car building shops of the Pennsylvania where he served until 1888. He worked as a draftsman in that railroad's mechanical engineer's office from 1888 to 1890. He joined the Lake Shore & Michigan Southern in 1890 serving successively as chief draftsman in the car department, general foreman in the car shops, general car inspector, mechanical engineer and superintendent of motive power. He resigned from the Lake Shore & Michigan Southern in 1906 when he was appointed vice-president of the American Locomotive Company. He subsequently was elected president of the Economy Devices Corporation in 1913 and president of the Franklin Railway Supply Company in 1917.



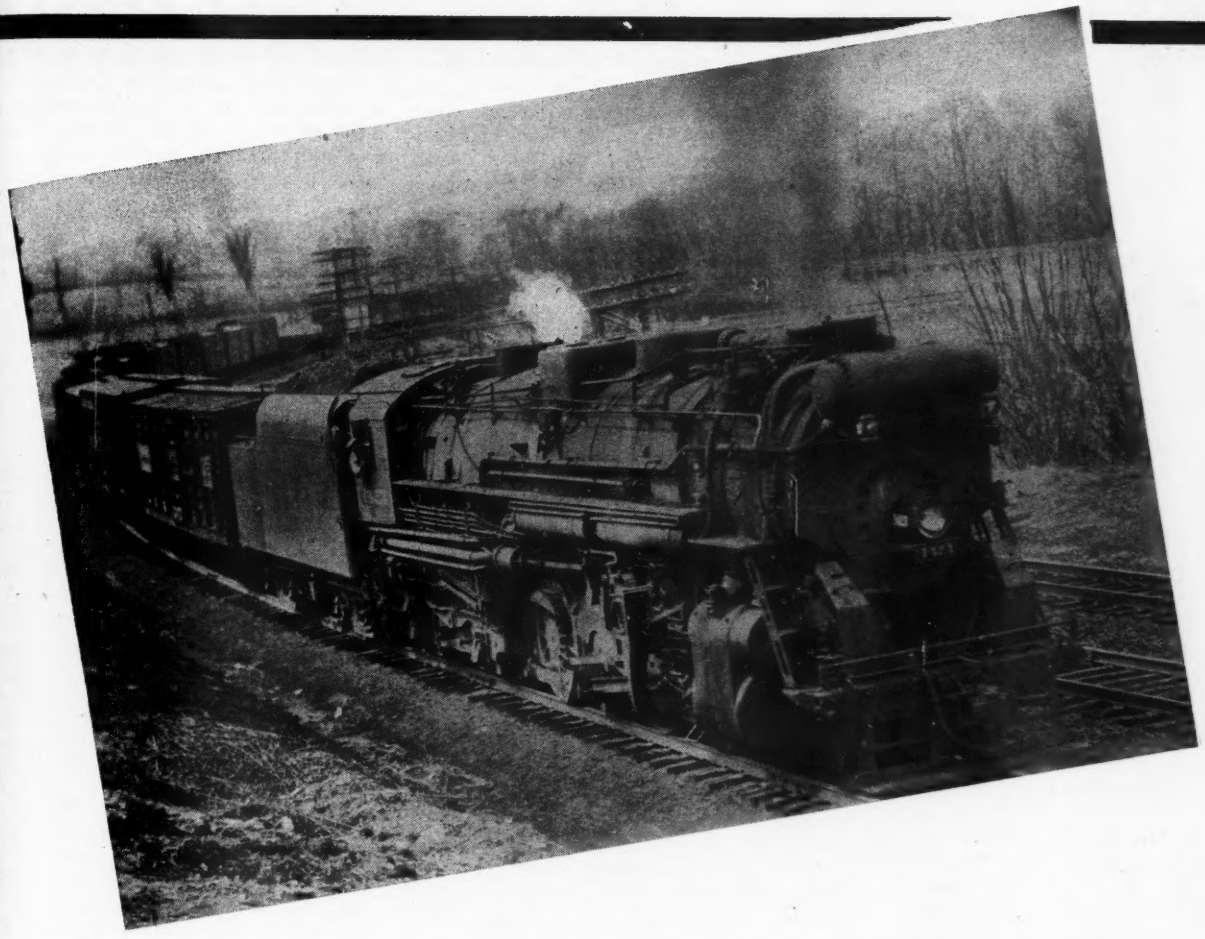
Herman F. Ball

John N. Merkle

George W. Alcock served in the engineering department of the American Loco-

News Department continued on next left-hand page

The Proof of the Pudding



If the proof of the pudding lies in the eating, then the surest proof of the great improvements made in the design of the modern steam locomotive will be found in the measure of its increased performance today.

The year 1943 saw all railroad records broken. Passenger-miles reached 85,000,000,000 as against less than 35,000,000,000 in 1917—the year we entered World War I. Freight-ton miles ran to 725,000,000,000, as against less than 365,000,000,000 in 1916. And all this vastly increased service was rendered by only about two-thirds the number of locomotives then in use!

In the great improvements which have been made in modern steam locomotive design, Lima has played a most important part. Developments now in progress give promise of further great advances in efficiency and capacity when present wartime restrictions on design and materials come to an end.

LIMA LOCOMOTIVE WORKS — LIMA LOCOMOTIVE WORKS INCORPORATED — INCORPORATED, LIMA, OHIO

motive Company from 1902 to 1917 and in the production division of the U. S. Army ordnance department of the U. S. first world war. After the war he joined the sales department of the Lima Locomotive Works. He was subsequently appointed assistant to the president of the Franklin Railway Supply Company in 1936 and elected vice-president in 1940.

John N. Merkle joined the Franklin Railway Supply Company in 1911. He

G. W. Alcock

was transferred to the Franklin Railway Supply Company, Ltd., Montreal, Canada in 1917, returning to the Franklin Company in New York in 1918 where he remained until 1935 when the Balmar Corporation was formed. He has been vice-president and executive vice-president of that company.

OBITUARY

Fred S. Doran, vice-president of Joseph T. Ryerson & Son, died March 24 in Chicago. Mr. Doran began his career with the company as an office boy in 1905. He represented the company in Wisconsin and southern Minnesota for a number of years

Fred S. Doran

and, in 1920, was appointed assistant sales manager of the Chicago plant. In 1927 he was appointed manager of the Ryerson Cleveland, Ohio, plant, and in 1941, was transferred to the general offices in Chicago to assume more general responsibilities in connection with the Ryerson war effort. He was elected vice-president in 1942.

Construction

Missouri Pacific 1944 Improvement Program

An extensive program of construction and improvement work is contemplated in 1944 on the Missouri Pacific Lines, contingent on approval by the War Production Board and other factors. The principal items on this program are as follows: Continuation of the work of installing automatic block signals on the Central division, including 81 miles between Coffeyville, Kan., and Wagoner, Okla., and possibly 150 miles between Van Buren, Ark., and North Little Rock. Another signal improvement listed is the installation of 42½ miles of automatic block signals between Forest Hill, La., and Kinder.

To protect the tracks from high water it is planned to relocate and raise the main track near Hilliard, Mo., and to raise the track near Woodson, Ark., and Coffeyville, Kan. At Comiskey, Kan., it is proposed to extend a siding 4,422 feet westwardly, to construct a 5,548-foot lap siding with necessary signals and remote control switches, and build a coaling station to serve three tracks, a cinder conveyor to serve two sidings and water facilities to serve three tracks. At Selkirk, Kan., it is proposed to install a 3-unit cinder conveyor, a 1,120 ft. coal hopper track, and a 5,015-ft. lap siding. One end of an existing siding is to be removed, and the other is to be extended 4,472-ft.

A 400,000-gal. Diesel oil storage tank will be installed at Dupo, Ill., and a 100,000-gal. tank at Texarkana, Ark. The 1944 improvement program also proposes the purchase of a spare 4-wheel Diesel locomotive power truck, complete with two traction motors, and a spare 16-cylinder 1350-horse power Diesel engine.

Improvements proposed for Dupo, Ill., include the extension of thirteen 85-ft. roundhouse stalls to a length of 120 ft., the relocation of a water tank and the boiler washout plant, the installation of two 300-hp. water tube boilers complete with combustion control, and ash and coal handling facilities, to replace a pair of 250-hp. hand-fired boilers.

New mechanical appliances and appurtenances include a 50-inch car wheel lathe, for St. Louis, Mo.; a turret lathe and horizontal milling machine for North Little Rock, Ark.; a vertical boring mill, horizontal milling machine and four portable electric welders for Sedalia, Mo.; an engine lathe and 6,000-pound lift truck for Osawatomie, Kan.; a crane truck with telescopic boom for Coffeyville, Kan.; an engine lathe for Kingsville, Tex.; and a milling machine for South San Antonio, Tex.

Roadway machines include a crawler dragline, three crawler tractors with grading equipment, one pull-type grader, 50-unit tampers, three Burro rail cranes, one bolt tightening machine, a ballast drainage car, a ballast discer, two weed mowers, 15 tractor mowers, nine small weed burners, an air compressor and tools, nine small B. & B. derrick cars, 10 motor scythes, four concrete breakers, two Octopus-type weed burners and four extinguisher cars.

The 1944 improvement program also contemplates the application of roller bearings and other improvements to 11 locomotives, 10 mechanical stokers, 20 Thermic syphons, 10 radial buffers, and of 75 force feed lubricators. The railroad also plans general repairs and betterments on 2,057 freight cars; to rebuild three mail cars; and to purchase two 4-wheel spare trucks for the "Eagle" equipment.

BALTIMORE & OHIO.—Division 4 of the Interstate Commerce Commission has authorized this road to build a 3.02-mile extension from a point near Cowen, W. Va., to Donaldson, where it will connect with a line of the Cherry River Boom & Lumber Co., with which the B. & O. has an operating arrangement. The extension is scheduled for completion before January 1, 1945, at an estimated cost of $433,110, and is expected to produce an annual saving of $124,404 in the movement of coal from the territory reached by the lumber road.

CANADIAN NATIONAL. — This road has awarded a contract, amounting to $40,000, to W. C. Wells, Wilkie, Sask., for improvements to the engine house, machine shop and boiler room at Calgary, Alta.

CHICAGO, ROCK ISLAND & PACIFIC.—Division 4 of the Interstate Commerce Commission has approved the construction of 20.72 miles of new main line by this road in connection with a relocation between Perlee, Iowa, and Eldon. The total cost of the project was estimated to be $2,475,736, to be paid from funds in the road's treasury. Work is expected to be completed by October 31 and will reduce ruling grades on a heavy-duty main line from 1.6 per cent to 0.6 per cent, and maximum curvature from 4 deg. to 1 deg. 30 min.

NORTHERN PACIFIC.—This road has completed plans for the construction of a 6½-mile spur track from its branch line at Hazen, N. D., to a newly-opened lignite coal field in west-central North Dakota, operated by the Truax-Traer Coal Company. The spur and extensive switching trackage at the mine field and at Hazen will be constructed at an approximate cost of $300,000.

PENNSYLVANIA.—The Pennsylvania Public Utility Commission has approved the alteration and reconstruction of the crossing above grade where state highway route No. 04007 crosses above the three tracks of the Pennsylvania in Beaver Falls. The project involves the dismantling and removal of the superstructure of the existing single-span bridge, the widening and reconstruction of the existing stone masonry abutments and the construction of a new I-beam and reinforced concrete superstructure thereon. The cost of reconstructing the highway approaches is estimated at $9,700 and the bridge at $39,346.

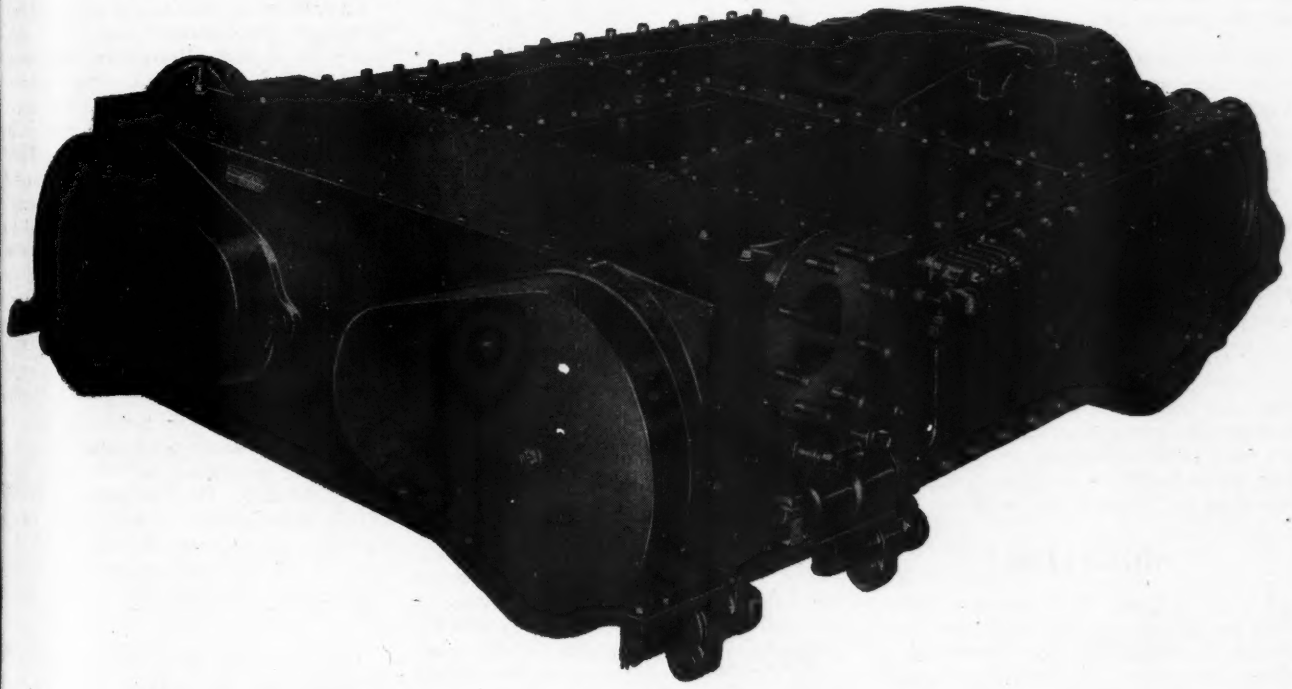
VIRGINIAN.—This company's applications for a further two-year extension, to April 15, 1946, of the time for completing two branch lines in West Virginia under authority of Interstate Commerce Commission certificates issued in 1937 and 1939 have been denied by Division 4 of the commission.

WAR DEPARTMENT.—The U. S. Engineer office, Sacramento, Cal., has awarded

News Department continued on next left-hand page

The new TYPE "E" Booster*

has a short cut-off



RECOGNIZING the trend in locomotive design toward higher boiler pressures, and noting the many new factors in current steam locomotive operation, the new Type "E" Booster has been developed expressly to meet today's conditions.

The short cut-off of the new Type "E" Booster takes full advantage of the expansive properties of the steam and effects marked economies in steam consumption. The Booster has cast steel cylinders, provided with integral inlet and exhaust manifolds. The large steam and exhaust passages give maximum inlet pressure and minimum back pressures. A new design of ball joint with self-adjusting backing and large passage areas increases the free flow of steam to and from the Booster.

*Trade Mark Reg. U. S. Pat. Off.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK • CHICAGO

In Canada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

contract, amounting to $42,051, to the Reynolds Construction Company, Springville, Utah, for the construction of railroad tracks and a loading platform in Utah.

WAR DEPARTMENT.—The U. S. Engineer Office, Mobile, Ala., has awarded a contract, amounting to $41,450, to the Southeastern Engineering Corporation, Atlanta, Ga., for the construction of a highway underpass on the Nashville, Chattanooga & St. Louis in Georgia.

Equipment and Supplies

FREIGHT CARS

The WHEELING & LAKE ERIE is inquiring for 500 box cars of 50 tons' capacity and 500 gondola cars of 50 tons' capacity.

The BANGOR & AROOSTOOK has ordered 35 hopper cars of 50 tons' capacity from the American Car & Foundry Co. The inquiry for this equipment was reported in *Railway Age* of March 18.

The CHICAGO, ROCK ISLAND & PACIFIC has ordered 500 box cars of 50 tons' capacity from the Pressed Steel Car Company. Court authorization for the purchase of this equipment was reported in the *Railway Age* of March 4.

The DELAWARE, LACKAWANNA & WESTERN order for 600 50-ton box cars was divided 250 cars to the Magor Car Corporation and 350 to the American Car & Foundry Co. These allocations were incorrectly reported as being 350 to Magor and 250 to a. c. f. in the *Railway Age* of March 18.

SIGNALING

The NEW YORK, NEW HAVEN & HARTFORD has placed an order with the Union Switch & Signal Co. for six model 31 electro-pneumatic car retarders totaling 374.5 retarder rail-feet for installation in the eastbound half of the New Haven's classification yard at Cedar Hill, New Haven, Conn.

The TERMINAL RAILROAD ASSOCIATION OF ST. LOUIS has ordered from the Union Switch & Signal Co. necessary material for the installation of automatic block signaling on the west belt line between Easton avenue and May street, St. Louis, Mo., as well as the material required for extensive changes and additions to the mechanical interlocking plant at the Terminal Company's crossing with the Southern in East St. Louis, Ill. These signal installations involve style H searchlight signals, relays, housings, switch circuit controllers and electric locks, with the field construction work being handled by the Terminal Company's regular forces.

DINING CARS on the Canadian Pacific served 3,600,000 meals in 1943. The railroad reports that this represents an increase of 2,637,000 meals over the last fully war-free year, 1938.

Financial

ALTON.—*Trustee of Subsidiary.*—Division 4 of the Interstate Commerce Commission has ratified the appointment of the Alton's trustee, Henry A. Gardner, to serve as trustee of the Louisiana & Missouri River in reorganization proceedings.

ANN ARBOR.—*Annual Report.*—The 1943 annual report of this road shows a net income, after interest and other charges, of $508,565, as compared with $553,022 in 1942. Selected items from the income statement follow:

	1943	Increase or Decrease Compared With 1942
Average Mileage Operated	293.86	.....
RAILWAY OPERATING REVENUES	$6,036,887	+$892,734
Maintenance of way and structures	600,630	+96,011
Maintenance of equipment	953,939	+42,924
Transportation—Rail line	2,317,287	+241,573
TOTAL OPERATING EXPENSES	4,208,373	+366,942
NET REVENUE FROM OPERATIONS	1,828,514	+525,792
Railway tax accruals	988,401	+424,700
RAILWAY OPERATING INCOME	840,114	+101,092
Net rents—Dr.	66,124	−73,004
NET RAILWAY OPERATING INCOME	773,990	+174,096
Total other income	22,389	−236,269
TOTAL INCOME	796,379	−62,173
Rent for leased roads and equipment	9,177	−10,870
Interest on funded debt —fixed interest	272,401	−7,599
TOTAL FIXED CHARGES	281,730	−19,176
NET INCOME	508,565	−44,457

BALTIMORE & OHIO.—*Equipment Notes.*—The Baltimore & Ohio has accepted a bid by the New York Trust Company of an interest rate of 1½ per cent on $494,550 of equipment notes, payable serially in 40 equal quarterly installments, and has applied to the Interstate Commerce Commission for authority to issue the notes. The proceeds will finance in part the purchase of seven 1000-hp. Diesel-electric switching locomotives from the Baldwin Locomotive Works at a total cost of $549,500—$78,500 per locomotive.

BANGOR & AROOSTOOK.—*Annual Report.*—The 1943 annual report of this road shows a net income, after interest and other charges, of $1,221,745, as compared with a net income of $843,109 in 1942. Selected items from the income statement follow:

	1943	Increase or Decrease Compared With 1942
RAILWAY OPERATING REVENUES	$8,704,873	+$1,935,086
Maintenance of way and structures	1,349,126	+245,999
Maintenance of equipment	1,280,825	+129,899
Transportation	2,184,455	+378,167
TOTAL OPERATING EXPENSES	5,281,056	+812,586
Operating ratio	60.7	−5.3
NET REVENUE FROM OPERATIONS	3,423,817	+1,122,500
Railway tax accruals	1,895,362	+856,981
RAILWAY OPERATING INCOME	1,528,455	+265,519
Joint facility rents	9,351	+47
NET RAILWAY OPERATING INCOME	1,790,159	+273,686
Total other income	62,798	+10,728
TOTAL INCOME	1,852,958	+284,415
Interest on funded debt	611,469	−97,265
TOTAL FIXED CHARGES	621,945	−96,364
NET INCOME TRANSFERRED TO EARNED SURPLUS	1,221,745	+378,636

BOSTON & MAINE.—*Acquisition of Subsidiary.*—This company has applied to the Interstate Commerce Commission for authority to acquire the property of the Wilton Railroad, which it controls by ownership of all stock outstanding except 79 shares that it proposes to purchase at $52.64 per share.

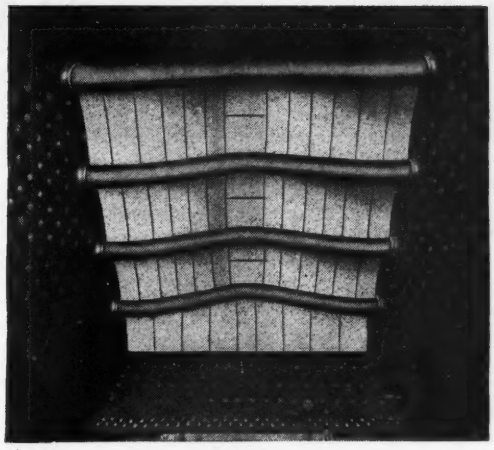
CANADIAN NATIONAL.—*Refunding.*—The Dominion Parliament after brief debate last week approved legislation empowering the Canadian National to refund maturing obligations, to an aggregate sum not exceeding $200,000,000. Douglas Abbott, parliamentary assistant to Finance Minister J. L. Ilsley, piloted the legislation and explained: "C. N. R. bonds that mature or are callable up to the end of 1950 total $257,575,477.47. The procedure outlined in this measure is for the meeting of these maturities by either refunding issues or by way of loan from the government. There have been no public issues of C. N. R. bonds since the outbreak of war; all maturing issues have been met by loans from the government. On February 29, 1944 loans by the government to the C. N. R. under the refunding act of 1938 totaled $105,719,032.65. Of this amount $24,689,392.53 bears interest at the rate of two per cent per annum, and $81,029,640.12 at the rate of 3½ per cent per annum, all loans made since the outbreak of war bearing interest at 3½ per cent per annum."

CANADIAN PACIFIC.—*Redemption.*—This company has signified its intention to redeem on June 1, at the call price of 104, $27,000,000 of outstanding collateral trust 5 per cent bonds due 1954. Meantime, the company has sold privately an issue of $26,000,000 of 2½ per cent equipment obligations, effecting an interest saving of $600,000 per annum.

CENTRAL OF NEW JERSEY.—*Promissory Notes.*—Division 4 of the Interstate Commerce Commission has authorized this road to issue $628,000 of promissory notes in evidence of, but not in payment for, the unpaid portion of the cost of ten 1,000-hp. diesel-electric switching locomotives purchased under conditional sales agreement, five from the Baldwin Locomotive Works and five from the American Locomotive Co., and financed at a 1¼ per cent annual interest charge with the Guaranty Trust Co. and the First National Bank of New York respectively.

CHESAPEAKE & OHIO.—*Equipment Trust Certificates.*—Division 4 of the Interstate Commerce Commission has authorized the company to assume liability for $2,200,00

News Department continued on next left-hand page



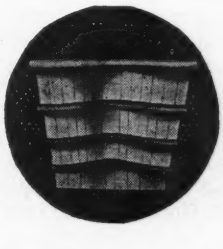
TAKE THIS STEP FOR COAL CONSERVATION

Coal on the tender represents not only certain dollars of expense but priceless man hours as well. Therefore, its careful conservation is a wartime duty

A generation of railroad men have learned that Security Sectional Arches are easy on the coal pile. A complete arch in every locomotive firebox is a fundamental step towards fuel conservation.

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists



AMERICAN ARCH CO.
INCORPORATED
60 EAST 42nd STREET, NEW YORK, N. Y.
Locomotive Combustion Specialists

of its 1¾ per cent serial equipment trust certificates of 1944, sold to Halsey, Stuart & Co. at 100.27, on which basis the net annual cost will be 1.7 per cent. The proceeds will be applied to the purchase of ten freight locomotives of 2-6-6-6 wheel arrangement, the total cost of which is about $2,781,744.

The division's report points out that in the past 7 years this road has made a net reduction in its publicly-held indebtedness of $39,275,000; that its outlay in 1944 for retirement of debt will be at least $3,900,000; that it has purchased for cash in the past 4 months equipment costing $9,654,000; and that its 1944 roadway improvement budget will require cash expenditures ranging from $8,000,000 to $12,000,000.

CHESAPEAKE & OHIO.—*Annual Report.*—The 1943 annual statement for this road shows a net income, after interest and other charges, of $31,358,680, as compared with $33,153,437 in 1942. Selected items from the income statement follow:

	1943	Increase or Decrease Compared With 1942
Average Mileage Operated	3,085.13	29.4
RAILWAY OPERATING REVENUES	$208,512,535	+$26,702,774
Maintenance of way	21,728,913	+5,878,662
Maintenance of equipment	35,358,969	+4,811,128
Transportation	49,028,668	+7,300,455
TOTAL OPERATING EXPENSES	115,045,265	+19,630,209
Operating ratio	55.17	+2.69
NET REVENUE FROM OPERATIONS	93,467,271	+7,072,565
Railway tax accruals	60,577,698	+10,579,346
RAILWAY OPERATING INCOME	32,889,572	−3,506,781
Equipment rents—Net Cr.	6,059,731	+1,353,716
Joint facility rents—Net Dr.	1,733,155	−274,371
NET RAILWAY OPERATING INCOME	37,216,148	−2,427,436
Other income	1,046,360	−91,756
TOTAL INCOME	39,111,592	−2,348,102
Rent for leased roads	49,669	+106
Interest on debt	7,349,962	−658,543
NET INCOME	31,358,680	−1,794,757
Disposition of net income:		
Income applied to sinking and other reserve funds	506,548	−5,538
Income balance transferred to profit and loss	30,852,133	−1,789,218

DULUTH, MISSABE & IRON RANGE.—*Annual Report.*—The 1943 annual report of this road shows net income, after interest and other charges, of $8,652,841, compared with a net income of $8,203,322 in 1942. Selected items from the income statement follow:

	1943	Increase or Decrease Compared With 1942
RAILWAY OPERATING REVENUES	$41,785,459	−$2,095,365
*Maintenance of way and structures	4,514,326	+1,391,185
Maintenance of equipment	6,236,983	+1,868,360
Transportation—Rail line	8,233,007	+323,458
*TOTAL OPERATING EXPENSES	19,637,238	+3,501,117
*NET REVENUE FROM OPERATIONS	22,148,221	−5,596,482
†Railway tax accruals	2,932,609	−302,535
RAILWAY OPERATING INCOME	.....	.....
Hire of Equipment—Net Cr.	316,655	+263,041
Joint facility rents—Net Dr.	31,333	+3,197
*NET RAILWAY OPERATING INCOME	9,942,853	+500,992
Non-operating income	83,876	+33,737
*GROSS INCOME	10,026,729	+534,729
Rent for leased roads	308	−28
Interest on funded debt	915,188	−50,550
TOTAL FIXED CHARGES	937,892	−28,830
BALANCE NET INCOME TRANSFERRED TO EARNED SURPLUS	8,652,841	+449,519

* Exclusive of loss on retirement or sale of tracks, etc., amounting to $411,743.
† Exclusive of Federal income and excess profits taxes.

NEW YORK, NEW HAVEN & HARTFORD.—*Reorganization Plan Appeal.*—This company has joined with the Pennsylvania and 10 other parties at interest in an appeal to the circuit court of appeals of a decision of the federal district court at New Haven, Conn., which approved the I.C.C. plan for the reorganization of this property.

LONG ISLAND.—*Annual Report.*—The 1943 annual statement of this road shows a net income, after interest and other charges, of $2,593,419, as compared with a loss of $15,047 in 1942. Selected items from the income statement follow:

	1943	Increase or Decrease Compared With 1942
Average Mileage Operated	376.43	−1.56
RAILWAY OPERATING REVENUES	$42,977,728	+$8,011,003
Maintenance of way and structures	6,442,546	+773,816
Maintenance of equipment	5,810,066	+692,379
Transportation	17,667,855	+3,077,841
TOTAL OPERATING EXPENSES	30,906,086	+4,609,320
NET REVENUE FROM OPERATIONS	12,071,643	−3,401,683
Railway tax accruals	5,747,870	+1,356,747
Hire of equipment—Net Dr.	1,494,843	+265,987
Joint facility rents—Net Dr.	1,092,838	+45,594
NET RAILWAY OPERATING INCOME	3,736,092	+1,733,355
Non-operating income	1,238,584	+866,617
GROSS INCOME	4,974,676	+2,599,972
Rent for leased roads	195,000	.....
Interest on funded debt	1,903,250	−13,621
TOTAL DEDUCTIONS FROM GROSS INCOME	2,381,257	−8,494
NET INCOME TRANSFERRED TO PROFIT AND LOSS	2,593,419	+2,608,466

NEW YORK, CHICAGO & ST. LOUIS.—*Annual Report.*—In his annual statement, John W. Davin, president, reports a substantial part of the Nickel Plate's net income during 1943 was used to carry forward the debt reduction program that has been pursued for several years and which the directors intend to continue to pursue until the railroad's credit has been reestablished. During the year, the debt was cut by $5,409,227, bringing total debt down below $125,000,000, as compared with more than $160,000,000 six years ago. The railroad's earliest maturities now consist of a bank loan of $2,000,000 due in 1944, and approximately $15,000,000 of mortgage bonds due in 1947, which Mr. Davin reports cannot be extended. Net income after interest and other charges totaled $9,188,026, as compared with $8,690,521 in 1942. Selected items from the income statement follow:

	1943	Increase or Decrease Compared With 1942
Average Mileage Operated	1688.47	.....
RAILWAY OPERATING REVENUES	$100,093,565	+$11,351,153
Maintenance of way	8,404,378	+1,420,156
Maintenance of equipment	13,381,879	+2,784,835
Transportation	28,838,778	+3,295,064
TOTAL OPERATING EXPENSES	54,585,505	+8,114,994
Operating ratio	54.53	+2.16
NET REVENUES FROM OPERATIONS	45,508,061	+3,236,159
Railway tax accruals	26,564,020	+3,736,474
RAILWAY OPERATING INCOME	18,944,040	−500,315
Equipment rents—Net Dr.	5,100,310	+588,186
Joint facility rents—Net Dr.	578,529	−45,650
NET RAILWAY OPERATING INCOME	13,265,201	+42,220
Other income	516,625	+114,731
TOTAL INCOME	14,975,751	+263,817
Rent for leased roads and equipment	5,327	+1,795
Interest on debt	5,595,356	−235,100
NET INCOME	9,188,026	+497,454
Disposition of net income:		
Income applied to sinking and other reserve funds	98,853	+719
Income balance transferred to earned surplus	9,089,173	+496,735

SALT LAKE CITY UNION DEPOT.—*Preferred Stock.*—This company has applied to the Interstate Commerce Commission for authority to issue $600,000 of preferred stock, consisting of 6,000 shares of $100 par value. Trustees of the Denver & Rio Grande Western and of the Western Pacific would each purchase half of the issue; and the proceeds would be used to pay in full the applicant's bonded indebtedness, consisting of $557,000 in mortgage bonds, and to provide additional working capital.

RUTLAND.—*Annual Report.*—The 1943 annual statement of this road shows a net income after interest and other charges of $113,844, compared with a $196,161 in 1942. Selected items from the income statement follow:

	1943	Increase or Decrease Compared With 1942
Average Mileage Operated	407.29	.....
RAILWAY OPERATING REVENUES	$4,710,907	+$423,060
Maintenance of way	650,100	+175,524
Maintenance of equipment	924,786	+132,703
Transportation	2,270,602	+324,468
TOTAL OPERATING EXPENSES	4,144,474	+660,157
Operating ratio	87.98	+6.72
NET REVENUE FROM OPERATIONS	566,433	−237,097
Railway tax accruals	292,580	+42,293
RAILWAY OPERATING INCOME	273,853	−279,388
Equipment rents—Net Cr.	13,088	+7,516
Joint facility rents—Net Cr.	40,008	+3,477
NET RAILWAY OPERATING INCOME	326,949	−268,408
Total other income	195,060	+123,208

News Department continued on next left-hand page

Essential in Locomotive Boiler Design . . . Ample *Free* Steam Area between Boiler and Cylinders

Maximum free steam area is obtainable only with the Elesco Superheater as applied to small flue boilers.

Specify this combination for your new power.

ELESCO

A-1643

SUPERHEATERS • FEEDWATER HEATERS
AMERICAN THROTTLES • STEAM DRYERS
EXHAUST STEAM INJECTORS • PYROMETERS

THE SUPERHEATER COMPANY

Representative of
AMERICAN THROTTLE COMPANY, INC.
60 East 42nd Street, NEW YORK
122 S. Michigan Blvd., CHICAGO
• • •
Montreal, Canada
THE SUPERHEATER COMPANY, LTD.

Total Income	522,009	−145,196
Rent for leased roads and equipment	15,000	.....
Interest on funded debt	386,095	.....
Total Fixed Charges	401,141	−142
Net Income	113,844	−82,317

Norfolk Southern.—*Annual Report.*—The 1943 yearly report of this road shows a net income, after interest and other charges, of $507,341, as compared with a net income of $702,101 in 1942. Selected items from the income statement follow:

	1943	Increase or Decrease Compared With 1942
Average Mileage Operated	732.71	−.31
Railway Operating Revenues	$8,377,575	+$497,804
Maintenance of way and structures	1,781,686	+550,550
Maintenance of equipment	991,294	+151,415
Transportation	2,674,774	+232,876
†Total Operating Expenses	6,181,654	+1,017,363
Operating ratio	73.79	+8.25
Net Revenue From Operations	2,195,922	−519,559
*Railway tax accruals	898,817	−254,858
Railway Operating Income	1,297,104	−264,700
Equipment and joint facility rents—Net Dr.	353,809	−11,792
Net Railway Operating Income	943,296	−252,908
Total other income	199,038	+6,440
Total Income	1,142,334	−246,468
Rent for leased roads and equipment	72,500	+7,500
Interest on funded debt	226,511	−17,017
Total Fixed Charges	299,917	−11,895
Income After Fixed Charges	821,956	−224,760
Contingent Charges: Interest on Funded Debt	314,615	−30,000
Net Income	507,341	−194,760

* Includes $364,587 Federal Income taxes.
† Includes $281,772 estimated back pay due non-operating employees.

Tennessee Central.—*Annual Report.*—The 1943 annual statement of this road shows a net income, after interest and other charges, of $480,208, as compared with $245,991 in 1942. Selected items from the income statement follow:

	1943	Increase or Decrease Compared With 1942
Average Mileage Operated	285.7	−.01
Railway Operating Revenues	$4,841,515	+$854,234
Maintenance of way and structures	1,013,616	+167,812
Maintenance of equipment	675,177	+81,349
Transportation	1,449,332	+153,045
Total Operating Expenses	3,435,703	+458,105
Operating ratio	70.96	−3.72
Net Revenue From Operations	1,405,811	+396,128
Railway tax accruals	525,493	+185,170
Railway Operating Income	880,319	+210,959
Non-operating income	22,657	+7,747
Gross Income	902,976	+218,706
Rent for leased roads	25,109	−7,862
Interest on funded debt	212,143	+9,915
Total Deductions From Gross Income	422,768	−15,511
Net Income	480,208	+234,217

Texas & Pacific.—*Annual Report.*—The 1943 report of this road shows net income, after interest and other charges, of $6,155,859, as compared with net income of $9,003,541 in 1942. Selected items from the income statement follow:

	1943	Increase or Decrease Compared With 1942
Average Mileage Operated	1,889.87	−6.5
Railway Operating Revenues	$70,667,645	+$18,903,412
Maintenance of way	9,058,288	+3,599,355
Maintenance of equipment	10,781,583	+3,189,162
Transportation—rail line	16,778,499	+3,440,081
Total Operating Expenses	40,812,687	+11,179,390
Operating ratio	.....	.....
Net Revenues From Operations	29,854,958	+7,724,023
Railway tax accruals	19,712,172	+11,112,135
Railway Operating Income	10,142,786	−3,388,113
Net rents—Dr.	897,899	−231,894
Net Railway Operating Income	9,244,887	−3,156,219
Total other income	728,953	+236,124
Total Income	9,973,840	−2,920,095
Interest on funded debt	3,644,291	−172,841
Total Fixed Charges	3,652,538	−176,056
Contingent Charges: Interest on funded debt	9,929	−1,771
Net Income	6,155,859	−2,847,682

Wabash.—*Annual Report.*—The 1943 annual report of this road shows a net income after interest and other charges of $8,551,804, as compared with a net income of $5,532,113 in 1941. Selected items from the income statement follow:

	1943	Increase or Decrease Compared With 1942
Average Mileage Operated	2,393.47	−1.59
Railway Operating Revenues	$95,520,547	+$16,622,063
Maintenance of way and structures	10,584,039	+2,362,753
Maintenance of equipment	10,718,691	+1,317,251
Transportation—Rail line	27,969,908	+2,964,367
Total Operating Expenses	54,355,860	+7,318,478
Net Revenue From Operations	41,164,687	+9,303,585
Railway tax accruals	24,495,373	+9,534,072
Railway Operating Income	16,669,314	−230,488
Joint facility rents—Bal. Dr.	1,889,664	−168,887
Net Railway Operating Income	11,777,668	+726,023
Total other income	763,540	+17,108
Total Income	12,541,207	+743,131
Rent for leased roads	278,205	−88,296
Interest on funded debt—fixed interest	2,104,031	−34,297
Total Fixed Charges	2,402,169	−171,712
Net Income	8,551,804	+2,051,731
Disposition of net income: Income applied to sinking and other reserve funds	175,513	−20,588
Dividend appropriations of income	1,399,633	.....
Total Appropriations	1,575,146	−20,588
Transferred to Credit of Profit and Loss	6,976,658	+2,072,320

Average Prices Stocks and Bonds

	April 4	Last week	Last year
Average price of 20 representative railway stocks..	39.83	39.78	37.51
Average price of 20 representative railway bonds..	87.23	87.19	76.95

Dividends Declared

Norfolk & Western.—Adj. preferred, $1.00, quarterly, payable May 10 to holders of record April 22.

Reading.—25¢, quarterly, payable May 11 to holders of record April 13.

Abandonments

Atlantic Coast Line-Louisville & Nashville.—These roads and the Lexington Terminal, lessor, have been authorized by Division 4 of the Interstate Commerce Commission to abandon operation of, and to abandon, respectively, 1.43 miles of line at Lexington, Ga.

Alton.—In a proposed report Examiner J. S. Pritchard has recommended that the Interstate Commerce Commission deny this road's application for authority to abandon a branch of Carrollton, Ill., to East Hardin, 19.4 miles, it being his opinion that the inconvenience to shippers from such an abandonment, and the losses to the public occasioned by longer truck hauls that would have to be substituted for it, outweigh the burden that continued operation would impose on the railroad.

Chicago, Attica & Southern.—The War Food Administration has filed with the Interstate Commerce Commission a brief in opposition to this road's application for authority to abandon its line, taking the position that its continued operation is essential to the food producers and processors served, that its present owners "have not attempted in good faith" to operate the road at a profit, and that "the fact that continued operation of the railroad may result in losses to the owners should not be considered by the commission as a reason" for approving the application.

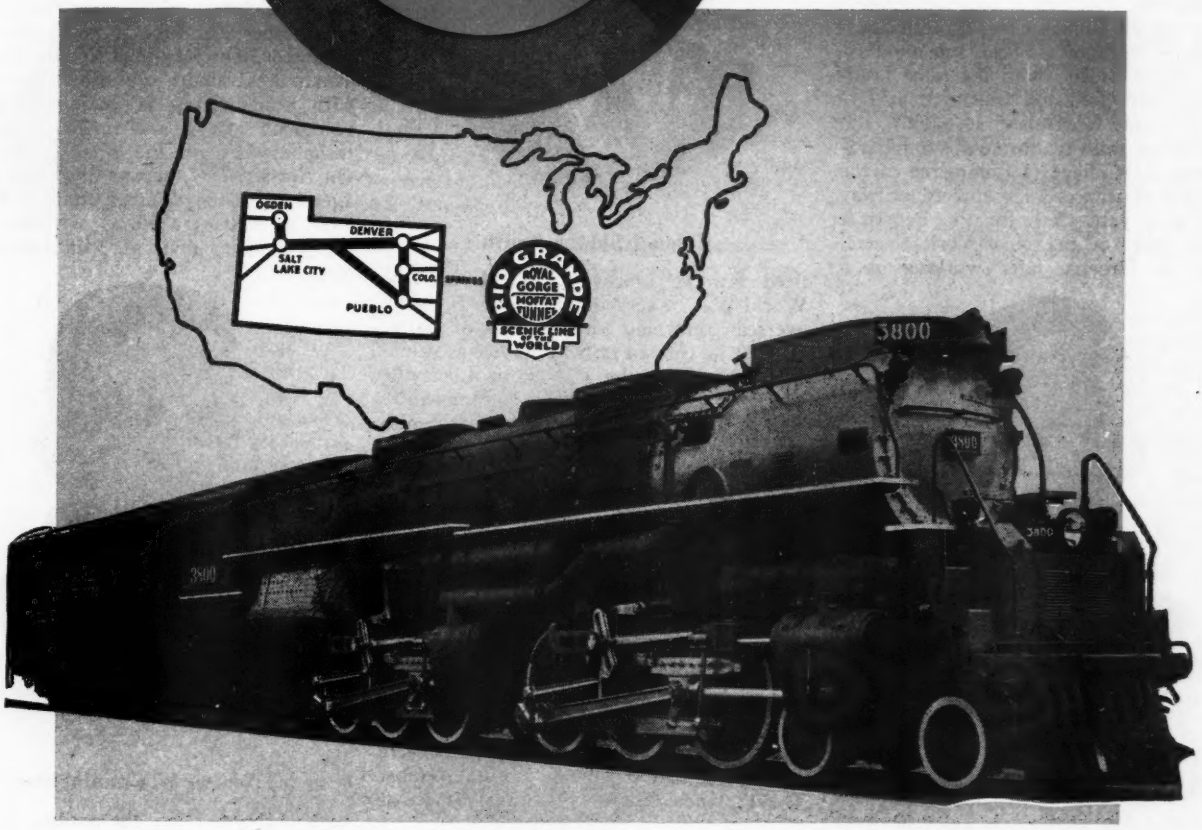
Chicago, Rock Island & Pacific.—Abandonment of 22.67 miles of this road's main line track in segments between Perlee, Iowa, and Eldon has been authorized by Division 4 of the Interstate Commerce Commission in connection with a relocation project.

Lehigh Valley-Reading.—Division 4 of the Interstate Commerce Commission has denied the application of these two roads, lessees, and the Ironton for authority, respectively, to abandon operation of and to abandon a 2.6-mile branch at Siegersville, Pa., as it finds continued operation will not be a financial burden on the lessees.

Missouri-Kansas-Texas.—This road's application for authority to abandon its 0.83-mile branch from Krebs Junction, Okla., to Krebs has, at its request, been dismissed by Division 4 of the Interstate Commerce Commission.

News Department continued on next left-hand page

KEEPING PACE WITH THE NATION'S NEEDS



The Denver & Rio Grande Western in 1943 put into operation six Alco 4-6-6-4's. Incidentally, this adds another road to the list of those who have taken advantage of the capabilities of this high-speed, heavy-tonnage locomotive.

Buy War Bonds

Locomotive Characteristics

Weight on Drivers	405,500 Lb.	Boiler Pressure	280 Lb.
Weight of Engine	603,000 Lb.	Tractive Power	97,350 Lb.
Cylinders (Four)	21 x 32 Ins.	Tender Capacity—Water	25,000 Gals.
Diameter of Drivers	69 Ins.	Tender Capacity—Fuel	28 Tons

Alco

AMERICAN LOCOMOTIVE

MANUFACTURERS OF MOBILE POWER

STEAM, DIESEL AND ELECTRIC LOCOMOTIVES, MARINE DIESELS, TANKS, GUN CARRIAGES & OTHER ORDNANCE

Railway Officers

EXECUTIVE

Paul Donovan has been appointed vice-president of the Rahway Valley.

W. C. Ransom, general manager of the Manufacturers' Junction Railway, with headquarters at Cicero, Ill., has been elected vice-president, with the same headquarters.

Wayne A. Johnston, assistant general manager of the Illinois Central, with headquarters at Chicago, has been appointed assistant vice-president, with the same headquarters. Mr. Johnston was born at Urbana, Ill., on November 19, 1897, and graduated in railway business administration from the College of Commerce of the University of Illinois. He entered railway service as a yard clerk for the Peoria & Eastern (part of the New York Central system) at Urbana, later working as a

Wayne A. Johnston

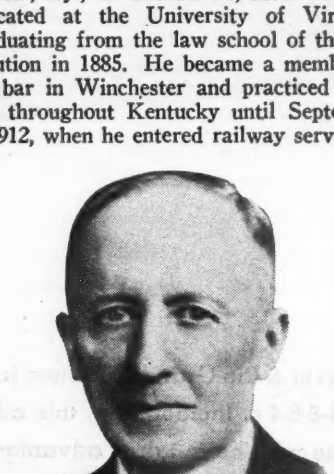
switchman. On October 1, 1919, he went with the Illinois Central as an accountant in the office of the division superintendent at Champaign, Ill., and was later promoted to chief accountant and chief clerk of the superintendent. In October, 1921, Mr. Johnston was appointed assistant chief clerk of the general superintendent, Northern lines at Chicago and in September, 1925, he was assigned to the office of the vice-president and general manager. In April, 1934, he was appointed general agent, traffic department, and in February, 1935, he was promoted to office manager to the vice-president in charge of traffic. Mr. Johnston was appointed general traffic agent in September, 1937, and assistant to the general manager in January, 1938. In October, 1940, he was appointed superintendent of the Kentucky division and in September, 1941, he returned to Chicago as assistant to the vice-president and general manager. In March, 1942, Mr. Johnston was promoted to the position he held at the time of his new appointment.

Colonel Sidney Smith, whose promotion to vice-president and general counsel of the Louisville & Nashville, with headquarters at Louisville, Ky., was reported in the *Railway Age* of March 25, was born in Louisville on February 12, 1883, and graduated from Johns Hopkins University in 1902 and from Harvard University Law School in 1905. From 1906 to 1916 he prac-

Colonel Sidney Smith

ticed law at Louisville and during the World War he served with the U. S. Army overseas, returning with the rank of major. In 1920, he entered railway service as valuation counsel for the L. & N. at Louisville and two years later he was promoted to general attorney. In July, 1940, Col. Smith was advanced to assistant general counsel, with the same headquarters, the position he held at the time of his new appointment.

E. S. Jouett, whose retirement as vice-president and general counsel of the Louisville & Nashville, with headquarters at Louisville, Ky., was reported in the *Railway Age* of March 25, was born at Winchester, Ky., on October 21, 1863. He was educated at the University of Virginia, graduating from the law school of that institution in 1885. He became a member of the bar in Winchester and practiced there and throughout Kentucky until September 1, 1912, when he entered railway service as



E. S. Jouett

general attorney of the Louisville & Nashville, with headquarters at Louisville. He was appointed general solicitor in charge of the law department during the period of federal control, and served in this position until the railroads were returned to private management, when he was appointed assistant general counsel of the Louisville & Nashville system. In April, 1921, Mr. Jouett was promoted to the position he held at the time of his retirement.

Walter W. Cunningham, whose promotion to executive general agent of the Illinois Central, with headquarters at Baton Rouge, La., was reported in the *Railway Age* of April 1, was born at Hamburg, Miss., on August 30, 1891, and attended Louisiana State University from 1907 to 1909. He entered railway service as a call boy and messenger of the Yazoo & Mississippi Valley (part of the Illinois Central), in 1904, later leaving to attend college. On August 16, 1910, he was made a flagman on the Vicksburg division of the I. C., and on October 27, 1916, he was promoted to conductor. On July 15, 1926, Mr. Cunningham was advanced to assistant trainmaster, with headquarters at Baton Rouge, and two years later he was further advanced to trainmaster, with the same headquarters. On April 1, 1937, he was appointed general agent at Baton Rouge, and on April 1, 1939, he was promoted to superintendent of the Vicksburg division, with headquarters

Walter W. Cunningham

at Vicksburg, Miss., the position he held at the time of his new appointment.

H. A. McAllister, director of education of the Erie, with headquarters at Cleveland, Ohio, has been promoted to assistant to the president, with the same headquarters.

J. A. McClain, Jr., general counsel of the Terminal Railway Association of St. Louis, with headquarters at St. Louis, Mo., has been elected vice-president and counsel, with the same headquarters. **Oliver Schiller** has been appointed assistant to the president, with headquarters at St. Louis.

FINANCIAL, LEGAL AND ACCOUNTING

William H. Prott, assistant tax agent of the St. Louis Southwestern, with headquarters at St. Louis, Mo., has been promoted to tax agent, with the same headquarters, succeeding **W. A. Conaway,** who has retired after 35 years service.

John E. Bertelsen, whose promotion to general auditor of the Minneapolis, St. Paul & Sault Ste. Marie (Soo Line), with headquarters at Minneapolis, Minn., was re-

ported in the *Railway Age* of March 11, was born at Ponca, Neb., on February 20, 1898, and entered railway service on April 12, 1920, as a clerk of the freight auditor's office of the Soo Line at Minneapolis. He held several clerical positions until June 1, 1925, when he was promoted to general

John E. Bertelsen

bookkeeper and special accountant in the office of the assistant comptroller, with the same headquarters. On December 1, 1936, Mr. Bertelsen was advanced to freight auditor, and on May 1, 1939, he was promoted to auditor of revenues, the position he held at the time of his new appointment, effective March 1.

OPERATING

B. A. Wood has been appointed trainmaster of the Union, with headquarters at East Pittsburgh, Pa.

J. R. Bissett has been named fuel supervisor of the Seaboard Air Line, with headquarters at Savannah, Ga.

James H. Smith has been appointed superintendent of the Cambria & Indiana with headquarters at Colver, Pa. He succeeds the late **J. M. Long,** whose death was reported in the *Railway Age* of March 25.

F. W. Kirchner has been named assistant superintendent of the Knoxville and Atlanta division of the Louisville & Nashville, with headquarters at Knoxville, Tenn. **F. W. Douglas** has been appointed superintendent of terminals at Atlanta, Ga.

H. W. Hamilton, a recently-elected director of the manufacturers' Junction Railway, has been appointed general manager of that road, with headquarters at Cicero, Ill., succeeding **W. C. Ransom,** whose election as vice-president is reported elsewhere in these columns.

J. J. Galuppo, assistant trainmaster of the Central of New Jersey at Elizabethport, N. J., has been appointed freight trainmaster with headquarters at Jersey City, N. J., succeeding **W. J. Carroll,** who has been named day terminal trainmaster at Jersey City. Mr. Carroll replaces **M. J. Haggerty,** appointed to the new position of general supervisor of terminals with the same headquarters. **F. T. Hill,** terminal trainmaster at Allentown, Pa., has been named train rules examiner at Jersey City to replace **R. E. Vreeland,** who has been appointed to the newly created post of supervisor of safety, same headquarters.

Thomas J. Casey, whose promotion to superintendent of the Mississippi division of the Illinois Central, with headquarters at Water Valley, Miss., was reported in the *Railway Age* of April 1, was born at New Orleans, La., on September 22, 1900, and entered railway service in October, 1916, as a call boy of the I. C. at New Orleans. He later served as air brake foreman and roundhouse foreman, and in March, 1937, he was promoted to general roundhouse foreman, with headquarters at Paducah, Ky. In February, 1939, Mr. Casey was advanced to road foreman of engines, with the same headquarters, and in March, 1940, he was promoted to trainmaster of the Iowa division, with headquarters at Council Bluffs, Iowa. In May, 1942, Mr. Casey was transferred to Waterloo, Iowa, remaining in that location until his new appointment became effective on April 1.

Michael Joseph Haggerty, whose appointment as general supervisor of terminals of the Central of New Jersey was announced in the *Railway Age* of April 1, was born at Elizabeth, N. J., in 1886. He

Michael Joseph Haggerty

entered railroad service in 1898 as a messenger of the Central of New Jersey at Elizabethport, N. J. In 1900 Mr. Haggerty became a freight checker and clerk at the same location, and five years later was appointed driller. He then served successively as assistant yardmaster and yardmaster, becoming assistant trainmaster at Jersey City, N. J., in July, 1924. In March, 1928, he was named terminal trainmaster at Allentown, Pa., and was transferred as trainmaster to Mauch Chunk, Pa., in 1931. Mr. Haggerty returned to Allentown in his former position in December, 1934; being transferred to Jersey City in that capacity on January 1, 1936. He continued as terminal trainmaster at Jersey City until his present promotion to general supervisor of terminals with the same headquarters.

TRAFFIC

Silas B. St. John, general agent of the Atchison, Topeka & Santa Fe at Boston, Mass., whose retirement from that position after 48 years of service was announced in the *Railway Age* of April 1, was born at Sharon, Conn., on March 20, 1874, and entered the service of the Santa Fe as a stenographer at New York in 1898. After serving in various capacities at New York, Philadelphia, Pa., and Chicago, he was appointed district passenger agent at Boston in 1920. Six years later he became general agent at Boston in charge of Santa Fe freight and passenger solicitation in the New England territory.

Grover C. Schmoll, commercial agent of the Southern, with headquarters at St. Louis, Mo., has been promoted to district freight agent, with the same headquarters.

W. L. Hohenstein has been named freight traffic agent of the Nashville, Chattanooga & St. Louis at New York, succeeding **J. J. Lorden,** newly appointed commercial agent.

Walter A. Springall, industrial agent of the Southern Pacific Lines in Texas and Louisiana, with headquarters at San Antonio, Tex., has retired after 47 years service.

John H. Grieme has been appointed district freight agent of the Southern, with headquarters at Mobile, Ala. He succeeds **Eugene B. Kelly,** whose promotion to the position of division freight agent was announced in the *Railway Age* of February 12.

A. G. Lees, traveling freight agent of the Grand Trunk Western, with headquarters at Toledo, Ohio, has been promoted to general agent, with headquarters at Birmingham, Ala., succeeding **O. K. Daly,** whose transfer to Seattle, Wash., was reported in the *Railway Age* of February 5.

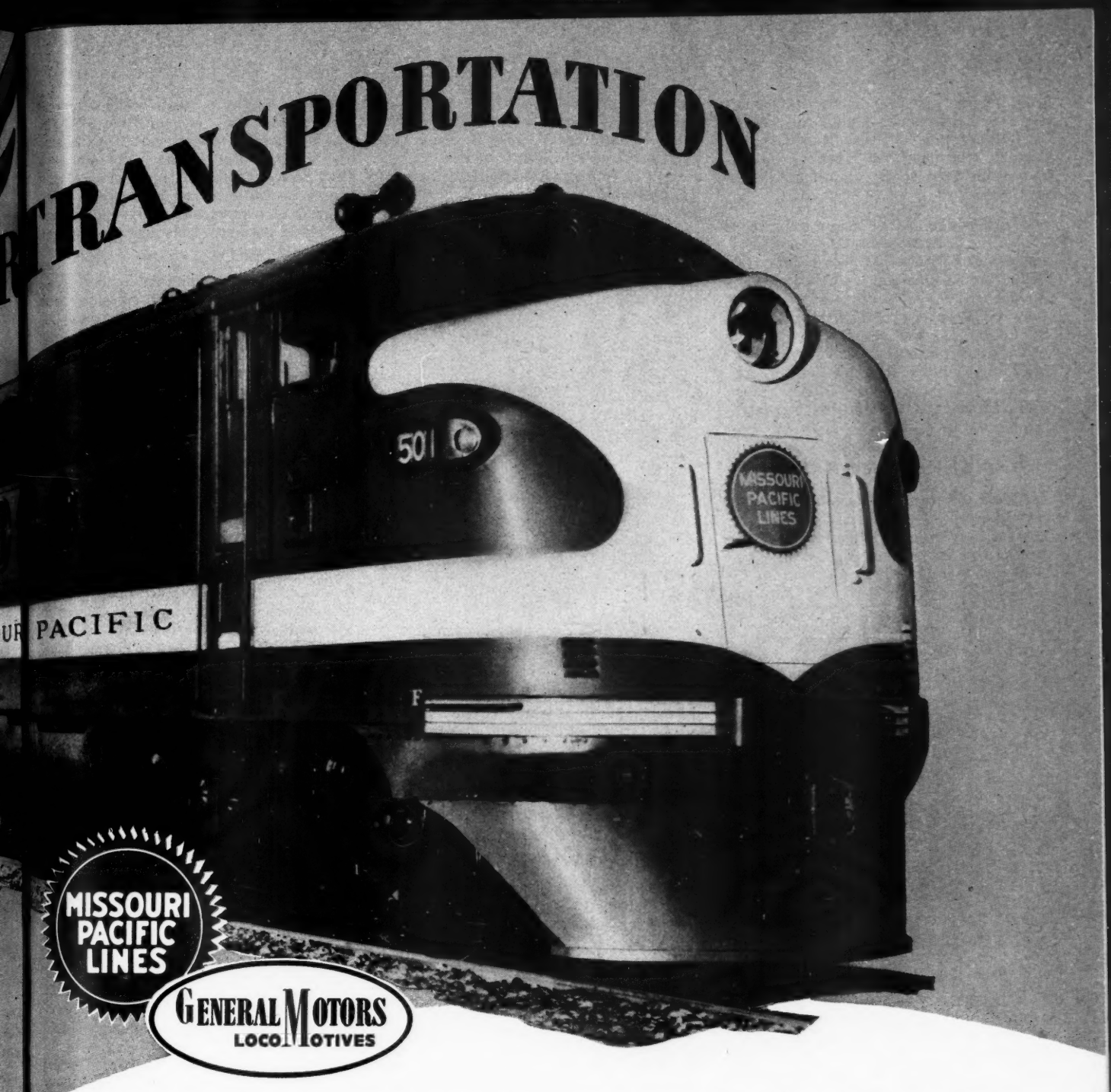
W. J. Donsbach has been appointed division freight agent of the Lehigh Valley at Newark, N. J., succeeding **W. A. Grove,** who is now assistant to freight traffic manager at New York. **A. J. Whitney,** division freight agent at Bethlehem, Pa., has been named assistant general freight agent at that location.

The joint agency maintained by the Central of New Jersey-Reading at Buffalo, N. Y., and Albany, N. Y., and the joint New England agency, have been discontinued. **C. R. Everding** has been appointed general agent of the Central of New Jersey at Buffalo succeeding **D. J. Birmingham,** who continues in that position with the Reading. **R. E. Rowland** has been named general agent of the Central of New Jersey at Albany, and **H. W. Gruchy** is the newly appointed New England freight agent of that road at Boston, Mass. He replaces **T. H. Ramsey,** who remains in the post for the Reading.

Edwin J. Falk, general freight and passenger agent of the Missouri Pacific Lines at Kansas City, Mo., has been promoted to freight traffic manager, with headquarters at Houston, Tex., succeeding **George H. Hamilton,** who has retired after 28 years service. **W. H. Rabe,** general agent, with headquarters at St. Louis, Mo., has been advanced to general freight agent, with the same headquarters, replacing **F. E. Pennington,** who has been promoted to general freight and passenger agent at Kansas City, succeeding Mr. Falk. **D. W. Jordan** has

News Department continued on second left-hand page


Looking Ahead
TO POST-WAR
MISSOURI PACIFIC LINES
4100
MISSOURI PACIFIC
7000



Right from the start, the first of the new Missouri Pacific Diesel Freight Locomotives made history when it broke all existing load and speed records on the railroad by hauling 115 cars, totaling 4339 tons, on its 515 mile maiden run from Dupo, Illinois, to Texarkana, Texas, in 20 hours and 8 minutes. This running time was almost 14 hours ahead of the schedule for "symbol" oil trains, which are the hottest and fastest freight trains handled by this or any other railroad. *But this inaugural run was only the beginning.* On the return trip with 120 loaded tank cars and 3 empties, the "Big Jeep" (as it has been dubbed by the operators) made the trip in 18 hours and 15 minutes, hauling 6835 actual tons which, so far as is known, constituted what was then a train load record. However, this mark was doomed for a fall. On the Texarkana-Dupo run of December 13, 1943, the General Motors 5400 Hp. Diesel Freight Locomotive handled 7064 actual tons, pulling 124 loads and 3 empties. At this time, these two 5400 Hp. Freight Diesels are being operated as four 2700 Hp. locomotives until additional Freight Diesels are received. Two 2700 Hp. Freight Diesels are now operating between Dupo and Alexandria and two between Dupo and Texarkana.

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS CORPORATION LA GRANGE, ILLINOIS, U.S.A.

been appointed general agent, with headquarters at Cincinnati, Ohio, replacing **R. T. Oliver,** who has been transferred to Chicago, relieving **J. M. Hrebec,** who has been transferred to St. Louis, succeeding Mr. Rabe.

C. F. Groom, district freight traffic manager of the Gulf, Mobile & Ohio, with headquarters at Chicago, has been promoted to freight traffic manager, with headquarters at Mobile, Ala., a newly-created position. **Ivan H. Wente,** general freight agent at St. Louis, Mo., has been advanced to assistant traffic manager, with headquarters at Chicago, succeeding to the duties of Mr. Groom. The position of district freight traffic manager at Chicago has been abolished.

ENGINEERING & SIGNALING

Albert Menger Zabriskie, assistant chief engineer of the Central of New Jersey, has been appointed chief engineer succeeding the late **Arthur E. Owen,** whose death on March 21 was reported in the *Railway Age* of March 25. Mr. Zabriskie

Albert Menger Zabriskie

was born at Nelson, N. H., on June 3, 1882, and entered railway service in January, 1902, in the engineering department of the Lehigh Valley. In June, 1904, he joined the Central of New Jersey as transitman, becoming assistant engineer in November, 1906. This position he held until January, 1917, when he was appointed engineer of design. In October of that year Mr. Zabriskie was named principal assistant engineer, and in July, 1938, he was promoted to the post of assistant chief engineer. He served in the latter capacity until his recent appointment as chief engineer with headquarters at Jersey City Terminal, N. J.

A. H. Simon, chief draftsman in the office of the structural engineer of the Chicago, Burlington & Quincy, with headquarters at Chicago, has been promoted to assistant structural engineer, with the same headquarters, a newly-created position.

PURCHASES AND STORES

A. F. Cummings, whose appointment as assistant purchasing agent of the Delaware & Hudson at Albany, N. Y., was announced in the *Railway Age* of March 11, was born at Cohoes, N. Y., on August 25, 1895. He attended Albany Business College, and entered railway service in January, 1914, in the purchasing department of the Delaware & Hudson, filling various positions. In December, 1939, Mr. Cum-

A. F. Cummings

mings was appointed chief order clerk, being named to the post of chief clerk to purchasing agent in February, 1944. After serving in that capacity for one month he was promoted to his present position of assistant purchasing agent with headquarters at Albany.

MECHANICAL

W. E. Lehr, assistant superintendent, system shops and enginehouse, has been appointed superintendent, system shops and enginehouse, of the Lehigh Valley at Sayre, Pa. He replaces **I. L. Harper,** newly appointed superintendent of motive power.

C. K. James, master mechanic of the Erie at Buffalo, N. Y., has been appointed district master mechanic of the Western district at Meadville, Pa., succeeding **Edward Pool,** who has been named master mechanic of the Eastern district at Jersey City, N. J. Mr. Pool replaces **F. H. Murray,** who has retired from that position. **George E. Lund,** general foreman at Meadville, has been appointed master mechanic at Buffalo to fill the post left vacant by Mr. James' new appointment.

Edwin E. Hinchman, whose promotion to superintendent of motive power of the Southern Pacific, with headquarters at Los Angeles, Calif., was reported in the *Railway Age* of March 11, was born at San Francisco, Calif., on February 17, 1894, and entered railway service on September 3, 1912, as a draftsman in the mechanical engineer's office at San Francisco. He served in that position until May 1, 1926, when he was advanced to dynamometer engineer, with the same headquarters. On June 15, 1936, he was appointed assistant master mechanic, with headquarters at Roseville, Calif., and two years later he was transferred to Oakland, Calif. On April 1, 1939, Mr. Hinchman was promoted to master mechanic, with headquarters at Bakersfield, Calif., and in July, 1941, he was advanced to superintendent of the general shops at Los Angeles. On March 1, 1942, he was further promoted to assistant superintendent of motive power, with headquarters at Sacramento, Calif., the position he held at the time of his new appointment, effective March 1.

L. P. Michael, chief mechanical engineer of the Chicago & North Western, with headquarters at Chicago, will retire on April 21. He was born near Lowell, Ind., on April 21, 1874, and graduated in mechanical engineering from Purdue University on June 16, 1896. On June 21 of the same year he entered railway service as a special helper apprentice of the Louisville, New Albany & Chicago (now the Chicago, Indianapolis & Louisville), and in November, 1896, he was appointed a locomotive fireman of the Wabash. From May, 1897, to November of the same year he served as a locomotive fireman of the L. N. A. & C., and in the latter month he became a draftsman of the Cleveland, Cincinnati, Chicago & St. Louis (Big Four), with headquarters at Indianapolis, Ind. Later he served as shop building inspector, machinist, air brake foreman, engine house foreman and general foreman for the same road. In 1906 Mr. Michael was appointed leading locomotive draftsman of the North Western, and two years later he was advanced to chief draftsman, with headquarters at Chicago. In February, 1920, he was promoted to mechanical engineer, and in June, 1929, he was advanced to the position he holds at the time of his retirement.

SPECIAL

Clifford A. Somerville, a newspaper man and executive secretary of the Maine State Salvage Committee, has resigned from that position to become editor of the Boston & Maine Railroad Employees Magazine with headquarters at Boston, Mass. **Herbert L. Baldwin** will continue to direct the publication as editor-in-chief.

W. A. Gammon, general manager, Western lines, of the Santa Fe Trail Transportation Company (motor transport subsidiary of the Atchison, Topeka & Santa Fe), with headquarters at Los Angeles, Cal., has been transferred to Wichita, Kan., as general manager, Eastern lines, succeeding **Gene Allen,** who has been transferred to Los Angeles, replacing Mr. Gammon. **J. F. Ross,** general passenger agent, Western lines, with headquarters at Los Angeles, has been promoted to superintendent of the Los Angeles division, with the same headquarters, succeeding **C. H. Davis,** who has been transferred to the Chicago division, with headquarters at Chicago, relieving **Rex Fifield,** who has been appointed general passenger agent, Western lines, with headquarters at Los Angeles.

OBITUARY

George Dinwiddie Moffett, industrial commissioner of the Chesapeake & Ohio at Huntington, W. Va., died on March 25 at Huntington. He was 68 years old.

Table of Revenues and Expenses appears on next left-hand page

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF FEBRUARY AND TWO MONTHS OF CALENDAR YEAR 1944

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1944	1943
Akron, Canton & Youngstown	Feb.	171	$362,776	$93	$376,363	$54,509	$35,993	$19,910	$114,989	$241,595	64.2	$134,768	$82,855	$67,265	$71,940
	2 mos.	171	720,320	194	747,105	110,283	70,765	36,829	219,788	471,975	63.2	275,130	178,750	146,820	132,688
Alton	Feb.	959	2,053,533	704,694	3,052,074	315,970	399,222	70,935	1,008,870	1,922,274	63.0	1,129,800	715,587	493,291	537,855
	2 mos.	959	3,950,562	1,402,271	5,957,254	577,707	807,654	137,002	2,042,663	3,812,526	64.0	2,144,728	1,362,816	913,774	1,114,355
Atchison, Topeka & Santa Fe System	Feb.	13,123	27,979,761	9,138,367	39,785,174	4,217,763	6,329,370	599,861	10,685,424	22,431,383	56.4	17,353,791	4,235,706	4,349,889	4,901,505
	2 mos.	13,124	54,143,703	18,079,059	77,762,192	8,110,440	12,709,433	1,194,975	21,675,943	44,877,323	57.7	32,884,869	8,416,837	8,324,649	9,887,247
Atlanta & West Point	Feb.	93	263,655	134,238	442,040	51,430	48,659	9,918	148,703	276,080	62.5	165,959	53,272	29,067	39,025
	2 mos.	93	517,088	293,823	897,723	99,027	105,887	19,001	306,926	566,289	63.1	331,433	112,418	60,801	79,395
Western of Alabama	Feb.	133	269,089	139,404	445,870	45,721	56,813	10,064	138,059	267,050	59.9	178,820	53,534	46,189	46,890
	2 mos.	133	523,049	296,802	891,937	84,663	115,970	20,086	294,479	548,427	61.5	343,510	110,294	94,319	105,346
Atlanta, Birmingham & Coast	Feb.	639	524,118	45,882	600,149	99,846	100,741	27,963	236,041	488,139	81.3	112,010	65,193	31,448	73,954
	2 mos.	639	1,072,669	90,654	1,222,949	195,365	203,573	60,368	460,524	964,621	78.9	258,328	128,015	60,904	156,821
Atlantic Coast Line	Feb.	4,962	8,705,662	3,918,725	13,464,177	1,118,842	1,875,830	198,406	3,669,193	7,265,389	54.0	6,198,788	1,948,788	1,448,253	1,651,684
	2 mos.	4,962	17,407,541	7,673,336	26,820,091	2,188,224	3,684,767	396,661	7,452,058	14,512,382	54.1	12,307,709	3,807,709	2,787,513	3,401,591
Charleston & Western Carolina	Feb.	343	390,126	10,269	408,558	49,647	59,083	10,561	116,257	241,408	59.1	167,150	92,150	90,963	78,149
	2 mos.	343	719,045	21,954	760,398	101,569	116,676	20,838	237,060	488,233	64.2	272,165	142,165	139,220	156,767
Baltimore & Ohio	Feb.	6,143	22,971,115	3,764,856	28,189,492	3,832,367	5,797,103	343,038	10,196,088	21,100,858	74.9	7,088,634	3,947,503	3,423,143	5,104,288
	2 mos.	6,143	46,671,796	7,354,221	57,054,406	7,587,939	12,055,195	754,126	20,760,792	43,151,575	75.6	13,902,831	7,661,407	6,537,123	9,917,656
Staten Island Rapid Transit	Feb.	24	264,098	99,350	370,012	37,069	33,541	1,337	120,901	218,714	59.1	151,298	102,930	71,708	64,555
	2 mos.	24	536,129	202,845	753,102	67,385	59,406	2,499	234,712	413,947	55.0	339,155	218,569	181,027	147,304
Bangor & Aroostook	Feb.	602	829,773	63,366	920,100	145,389	113,498	5,355	240,689	535,744	58.2	384,356	160,004	166,703	233,904
	2 mos.	602	1,673,733	131,515	1,865,927	261,124	224,625	11,461	474,653	1,033,505	55.4	832,422	329,066	341,302	412,928
Bessemer & Lake Erie	Feb.	214	825,269	1,580	839,933	147,884	603,565	17,636	314,455	1,109,602	132.1	—269,669	—324,067	—34,828	—156,910
	2 mos.	214	1,750,545	3,151	1,782,405	291,532	1,314,526	30,409	589,672	2,289,430	128.4	—507,025	—619,707	—94,954	—331,116
Boston & Maine	Feb.	1,819	4,689,278	1,544,087	6,794,792	1,158,748	1,235,592	77,901	2,621,184	5,334,064	78.5	1,460,728	871,158	579,439	876,587
	2 mos.	1,819	9,339,149	3,036,610	13,626,924	2,287,354	2,503,962	150,505	5,453,915	10,875,269	79.8	2,751,655	1,616,257	1,043,306	1,715,489
Burlington, Rock Island	Feb.	228	164,503	66,148	243,207	22,564	17,809	3,102	64,920	121,527	50.0	121,680	113,364	86,134	54,311
	2 mos.	228	270,161	124,271	420,486	46,521	35,993	6,087	127,381	244,531	58.2	175,955	158,885	110,785	93,472
Cambria & Indiana	Feb.	35	168,531	.....	168,588	7,887	45,596	554	20,418	81,193	48.2	87,395	—38,852	36,796	37,136
	2 mos.	35	336,360	.....	336,501	15,824	91,998	1,351	40,760	164,630	48.9	171,871	—47,062	110,500	67,875
Canadian Pacific Lines in Maine	Feb.	234	392,456	47,509	465,910	44,274	80,450	6,389	170,074	311,629	66.9	154,281	132,155	97,489	141,227
	2 mos.	234	946,006	147,533	1,149,676	82,334	165,899	13,133	352,352	638,808	55.6	510,868	466,305	385,133	253,634
Canadian Pacific Lines in Vermont	Feb.	90	72,333	12,918	97,159	35,114	34,041	2,394	95,436	171,581	176.6	—74,422	—83,974	—115,624	—80,718
	2 mos.	90	168,895	26,221	219,222	61,233	67,503	4,837	193,624	338,545	154.4	—119,323	—137,730	—202,299	—139,611
Central of Georgia	Feb.	1,816	2,197,080	691,612	3,155,911	413,300	460,297	72,212	1,128,809	2,213,433	70.1	942,478	596,560	512,430	723,692
	2 mos.	1,816	4,428,299	1,440,207	6,451,569	787,363	896,033	146,082	2,335,292	4,446,546	68.9	2,005,023	1,214,197	1,059,876	1,324,775
Central of New Jersey	Feb.	655	4,041,074	582,245	4,947,661	517,981	950,130	48,477	2,168,266	3,840,607	77.6	1,107,054	653,016	299,628	371,313
	2 mos.	655	7,968,102	1,156,908	9,752,968	1,019,969	1,927,860	93,701	4,422,560	7,775,823	79.7	1,977,145	1,069,157	431,671	751,296
Central Vermont	Feb.	422	626,091	60,000	730,813	103,892	112,360	9,869	303,710	555,215	76.0	175,598	128,897	76,983	49,079
	2 mos.	422	1,257,642	132,000	1,490,058	196,259	216,394	19,847	629,955	1,113,338	74.7	376,720	284,989	183,125	125,867
Chesapeake & Ohio	Feb.	3,073	15,242,482	1,910,474	17,644,349	2,036,852	3,661,365	220,693	4,590,524	11,038,716	62.6	6,605,633	2,301,684	2,728,084	2,931,459
	2 mos.	3,073	30,318,419	3,799,892	35,144,771	4,023,757	6,819,216	467,841	9,298,012	21,709,591	61.8	13,435,180	4,691,015	5,537,830	5,940,474
Chicago & Eastern Illinois	Feb.	912	1,912,583	547,840	2,691,797	288,388	396,514	65,008	985,492	1,834,216	68.1	857,581	574,581	334,456	386,959
	2 mos.	912	3,763,500	1,152,528	5,404,476	593,612	879,087	128,762	2,037,375	3,844,520	71.1	1,559,956	1,052,956	551,318	754,901
Chicago & Illinois Midland	Feb.	131	482,233	1,295	510,747	67,733	70,484	17,330	133,082	311,954	61.1	198,793	82,454	84,087	81,589
	2 mos.	131	981,587	2,628	1,039,813	141,833	170,486	44,110	282,987	689,927	66.4	349,886	144,577	152,035	165,084
Chicago & North Western	Feb.	8,101	8,893,946	2,859,500	13,014,632	1,702,021	2,330,427	199,747	4,442,256	9,158,077	70.4	3,856,555	2,086,935	1,974,045	2,110,119
	2 mos.	8,101	17,913,180	5,501,460	26,067,207	3,415,469	4,759,691	406,686	9,144,770	18,687,243	71.7	7,379,964	4,158,420	4,082,190	3,823,199
Chicago, Burlington & Quincy	Feb.	8,991	14,130,774	3,310,879	19,006,581	2,222,784	2,539,207	253,282	4,916,764	10,463,825	55.1	8,542,756	2,812,222	2,453,257	4,085,716
	2 mos.	8,991	28,719,921	6,635,863	38,504,157	4,456,994	5,083,815	518,578	9,998,145	21,149,734	54.9	17,354,423	5,677,931	4,986,908	7,319,414
Chicago Great Western	Feb.	1,500	2,123,768	192,990	2,495,819	354,523	292,082	65,940	909,454	1,691,377	67.8	804,442	451,712	274,382	287,158
	2 mos.	1,500	4,146,540	423,500	4,955,021	683,796	609,811	129,015	1,826,941	3,389,444	68.4	1,565,577	875,171	549,976	556,141

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF FEBRUARY AND TWO MONTHS OF CALENDAR YEAR 1944—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1944	Net railway operating income 1943
Chicago, Indianapolis & Louisville	Feb.	541	$921,404	$83,655	$1,082,357	$103,874	$181,096	$32,584	$339,611	$696,133	64.3	$386,224	$283,366	$231,744	$228,074
	2 mos.	541	1,841,699	181,806	2,191,956	208,455	369,568	63,358	708,402	1,428,426	65.2	763,530	555,492	454,630	455,966
Chicago, Milwaukee, St. Paul & Pacific	Feb.	10,739	13,692,096	2,218,557	17,334,678	2,333,824	2,688,869	239,556	6,081,722	12,030,648	69.4	5,304,030	2,545,030	2,295,296	4,238,195
	2 mos.	10,741	28,218,675	4,652,329	35,857,891	4,583,898	5,327,411	490,708	12,310,072	24,064,612	67.1	11,793,279	5,633,279	5,235,484	7,819,209
Chicago, Rock Island & Pacific	Feb.	7,751	10,276,639	3,171,330	14,581,207	1,462,413	2,015,095	328,590	4,265,134	8,635,899	59.2	5,945,308	2,959,349	2,455,532	3,713,166
	2 mos.	7,751	20,240,701	6,587,925	29,064,295	2,906,750	4,131,154	664,090	8,787,781	17,657,334	60.8	11,406,961	5,471,392	4,557,674	7,267,324
Chicago, St. Paul, Minneapolis & Omaha	Feb.	1,617	1,735,170	317,718	2,229,621	270,847	281,803	39,135	966,623	1,635,397	73.3	594,224	388,903	300,530	299,429
	2 mos.	1,617	3,486,745	662,057	4,525,617	558,520	617,946	81,099	1,953,069	3,368,305	74.4	1,157,312	740,590	612,975	544,218
Clinchfield	Feb.	302	1,211,120	9,045	1,228,160	75,257	170,743	24,079	256,951	548,574	44.7	679,586	552,191	562,599	424,123
	2 mos.	302	2,445,510	19,875	2,483,579	156,353	338,570	45,774	516,700	1,100,629	44.3	1,382,950	1,129,269	1,142,561	958,759
Colorado & Southern	Feb.	748	897,161	297,872	1,299,065	120,188	208,641	17,256	394,641	786,615	60.6	512,450	317,894	276,761	232,878
	2 mos.	748	1,751,876	589,993	2,549,296	233,448	439,134	33,048	797,569	1,598,179	62.7	951,117	593,724	506,101	490,179
Fort Worth & Denver City	Feb.	804	782,843	396,038	1,281,082	208,727	132,354	22,968	313,015	738,842	57.7	542,240	314,221	276,271	255,447
	2 mos.	804	1,446,771	868,019	2,523,152	381,291	268,006	46,739	639,466	1,445,521	57.3	1,077,631	624,005	545,776	467,202
Colorado & Wyoming	Feb.	42	93,243	.....	149,201	8,349	26,438	774	55,243	94,706	63.4	54,495	21,419	20,644	23,212
	2 mos.	42	186,198	.....	304,026	16,225	34,808	1,460	114,374	181,734	59.7	122,292	45,399	43,793	47,122
Columbus & Greenville	Feb.	168	114,195	8,010	131,415	20,032	16,035	4,630	41,053	95,059	72.3	36,356	14,367	15,518	12,910
	2 mos.	168	217,998	19,281	257,495	40,410	33,479	8,708	84,512	194,620	75.6	62,875	23,994	26,493	25,646
Delaware & Hudson	Feb.	848	3,761,868	162,375	4,009,020	425,833	962,784	48,463	1,441,223	2,991,163	74.6	1,017,857	793,037	782,374	589,133
	2 mos.	848	7,911,252	361,994	8,462,821	834,813	1,978,502	92,606	2,928,589	6,072,433	71.8	2,390,388	1,949,498	1,946,325	1,086,894
Delaware, Lackawanna & Western	Feb.	973	4,779,356	800,225	6,113,360	629,149	1,014,719	115,004	2,748,097	4,695,192	76.8	1,418,168	718,168	601,473	1,031,649
	2 mos.	973	9,737,722	1,650,474	12,546,274	1,238,994	2,079,028	230,688	5,663,723	9,582,791	76.4	2,963,483	1,380,483	1,171,405	1,649,382
Denver & Rio Grande Western	Feb.	2,399	4,223,195	735,312	5,175,000	612,705	1,031,089	99,554	1,674,641	3,594,397	69.5	1,580,603	971,131	888,359	692,576
	2 mos.	2,399	8,865,709	1,518,601	10,841,470	1,184,331	2,132,501	193,592	3,476,129	7,360,965	67.9	3,480,505	2,180,902	1,993,378	2,430,027
Denver & Salt Lake	Feb.	232	239,270	8,946	258,212	72,162	52,838	2,753	90,907	230,095	89.1	28,117	—571	49,911	92,260
	2 mos.	232	521,830	17,090	559,154	106,150	112,828	5,289	191,255	438,405	78.4	120,749	62,269	161,987	218,452
Detroit & Mackinac	Feb.	230	52,795	7,668	67,286	14,191	16,612	938	31,858	67,288	100.0	—2	—4,229	—6,282	125
	2 mos.	230	106,600	16,655	139,268	26,680	34,252	1,710	61,604	131,892	94.7	7,376	—922	—3,910	9,901
Detroit & Toledo Shore Line	Feb.	50	442,309	.....	443,400	31,954	25,425	9,462	111,837	187,100	42.2	256,300	130,516	67,365	94,051
	2 mos.	50	871,818	.....	874,167	64,048	52,862	18,558	221,891	374,547	42.8	499,620	255,734	133,479	169,259
Detroit, Toledo & Ironton	Feb.	464	791,163	1,056	840,560	76,495	117,274	14,063	208,738	443,662	52.8	396,898	233,935	219,887	300,658
	2 mos.	464	1,707,361	2,181	1,809,428	157,761	237,779	29,789	433,921	911,077	50.4	898,351	528,423	494,268	514,447
Duluth, Missabe & Iron Range	Feb.	544	180,904	3,604	219,862	347,698	568,194	5,198	277,662	1,227,506	558.3	—1,007,644	—1,077,413	—1,011,691	—924,471
	2 mos.	544	286,356	9,102	368,285	657,756	1,095,489	9,477	517,564	2,352,121	638.7	—1,983,836	—2,118,121	—2,030,541	—1,771,061
Duluth, Winnipeg & Pacific	Feb.	175	326,000	3,800	334,600	43,258	35,441	2,008	134,857	219,847	65.7	114,753	90,346	49,522	13,922
	2 mos.	175	573,000	5,900	588,500	74,100	67,290	4,015	250,890	404,536	68.7	183,964	141,840	68,120	45,478
Elgin, Joliet & Eastern	Feb.	392	2,446,168	21	2,782,584	242,268	769,075	16,344	1,019,175	2,109,105	75.8	673,479	344,678	271,532	78,353
	2 mos.	392	4,893,119	22	5,602,181	480,789	1,526,022	32,089	2,054,416	4,221,617	75.4	1,380,564	719,206	555,793	208,108
Erie	Feb.	2,244	11,522,674	1,065,822	13,269,953	1,056,941	2,168,229	236,192	4,984,609	8,866,979	66.8	4,402,974	2,106,759	1,435,253	1,447,121
	2 mos.	2,244	22,754,348	1,924,495	26,174,420	2,155,711	4,482,696	458,934	10,074,624	18,020,796	68.8	8,153,624	3,941,903	2,669,712	3,082,426
Florida East Coast	Feb.	682	1,685,518	1,320,212	3,232,952	314,224	286,475	48,177	775,769	1,552,218	48.0	1,680,734	1,278,906	1,140,814	1,052,286
	2 mos.	682	3,307,222	2,541,259	6,308,958	617,816	567,943	94,169	1,560,195	3,088,307	49.0	3,220,651	2,306,615	2,057,807	1,723,890
Georgia Railroad	Feb.	329	598,927	140,715	784,722	90,971	107,912	22,155	297,510	541,834	69.0	242,888	211,746	212,293	314,145
	2 mos.	329	1,211,184	284,223	1,581,614	176,596	218,688	44,203	604,672	**1,088,216**	68.8	493,398	430,557	433,602	696,212
Georgia & Florida	Feb.	408	187,928	6,244	199,819	48,881	23,990	11,315	68,276	160,380	80.3	39,439	28,313	19,959	9,497
	2 mos.	408	373,076	12,646	396,083	95,159	46,378	21,674	125,768	303,683	76.7	92,400	71,658	52,240	30,163
Grand Trunk Western	Feb.	1,026	2,396,000	318,000	2,887,000	453,446	480,148	35,454	1,129,027	2,210,112	76.6	676,888	475,562	458,055	636,398
	2 mos.	1,026	4,950,000	596,000	5,888,000	902,477	972,871	71,298	2,257,407	4,422,687	75.1	1,465,313	996,978	948,892	1,333,905
Canadian National Lines in New England	Feb.	172	122,100	7,200	173,000	47,581	32,922	2,283	113,917	203,969	117.9	—30,969	—52,414	—90,962	—59,417
	2 mos.	172	252,100	15,100	330,800	86,414	71,204	4,610	205,395	401,265	121.3	—70,465	—113,355	—184,625	—154,918
Great Northern	Feb.	8,374	12,187,251	1,408,968	14,497,315	2,309,072	2,780,931	237,899	4,349,273	10,104,077	69.7	4,393,238	1,680,014	1,693,259	1,426,195
	2 mos.	8,374	23,184,153	2,900,363	28,015,053	4,463,947	5,707,425	446,220	8,667,299	20,191,532	72.1	7,823,521	2,989,869	2,999,506	3,085,477

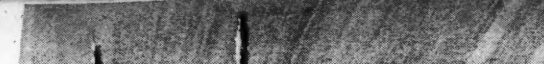
Table of Revenues and Expenses continued on next left-hand page

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF FEBRUARY AND TWO MONTHS OF CALENDAR YEAR 1944—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1944	Net railway operating income 1943
Green Bay & Western	Feb.	234	$242,521	$405	$250,072	$50,813	$25,432	$7,934	$67,256	$162,482	65.0	$87,590	$53,308	$47,491	$40,028
	2 mos.	234	475,274	939	491,015	104,000	53,331	16,915	129,973	323,948	66.0	167,067	98,547	88,480	92,160
Gulf & Ship Island	Feb.	259	251,675	41,723	313,094	37,294	23,825	2,605	94,382	167,152	53.4	145,942	126,629	113,177	—36,470
	2 mos.	259	369,450	81,945	492,505	82,110	43,738	5,178	187,842	339,279	68.9	153,226	114,388	87,916	4,255
Gulf, Mobile & Ohio	Feb.	1,973	2,597,918	194,154	2,898,481	463,501	506,344	83,290	827,351	2,000,381	69.0	898,100	478,288	334,322	401,034
	2 mos.	1,973	5,214,550	401,819	5,824,727	916,255	1,032,438	173,039	1,661,579	4,025,539	69.1	1,799,188	944,596	682,128	897,640
Illinois Central	Feb.	4,823	13,421,218	2,562,645	17,011,230	2,241,364	3,113,879	209,880	5,215,390	11,391,489	67.0	5,619,741	2,241,956	1,963,905	3,168,719
	2 mos.	4,823	27,289,903	5,371,654	34,780,832	4,471,990	6,288,641	421,377	10,587,530	22,997,103	66.1	11,783,729	4,681,383	4,088,398	5,990,702
Yazoo & Mississippi Valley	Feb.	1,524	3,017,694	390,304	3,580,472	411,599	319,082	34,899	939,252	1,796,974	50.2	1,783,498	760,332	670,776	411,069
	2 mos.	1,524	5,067,137	766,990	6,169,191	778,961	669,202	69,002	1,908,290	3,609,817	58.5	2,559,374	1,165,242	972,253	1,126,313
Illinois Central System	Feb.	6,347	16,438,912	2,952,949	20,591,702	2,652,963	3,432,961	244,779	6,154,642	13,188,463	64.0	7,403,239	2,996,509	2,640,594	3,583,701
	2 mos.	6,347	32,357,040	6,138,644	40,950,023	5,250,951	6,957,843	490,379	12,495,820	26,606,920	65.0	14,343,103	5,837,929	5,067,477	7,125,841
Illinois Terminal	Feb.	476	644,447	157,199	874,368	89,855	87,734	19,691	275,184	497,798	56.93	376,570	121,673	99,663	118,304
	2 mos.	476	1,317,197	322,569	1,789,734	174,815	180,922	39,822	561,472	1,008,915	56.37	780,819	287,097	238,392	230,767
Kansas City Southern	Feb.	878	2,831,379	360,221	3,278,202	539,442	411,091	54,694	1,015,145	2,120,504	62.8	1,257,698	674,698	444,147	519,910
	2 mos.	878	5,515,929	831,935	6,734,178	1,056,139	926,264	119,091	2,011,920	4,351,688	64.6	2,382,490	1,191,490	762,371	1,090,762
Kansas, Oklahoma & Gulf	Feb.	328	351,325	1,330	355,640	38,817	23,265	6,330	76,935	154,909	43.6	200,731	109,408	84,946	115,653
	2 mos.	328	677,507	2,830	686,897	59,640	47,760	16,094	159,992	304,447	44.3	382,450	209,872	162,575	214,341
Lake Superior & Ishpeming	Feb.	156	36,750	79	39,968	19,452	47,185	570	28,952	104,231	260.8	—64,263	—89,293	—80,369	—84,695
	2 mos.	156	72,924	186	79,067	43,899	91,849	1,231	58,884	211,945	268.1	—132,878	—186,406	—169,662	—166,940
Lehigh & Hudson River	Feb.	96	295,274	.....	296,592	40,202	32,033	5,635	90,564	176,047	59.4	120,545	49,513	26,903	25,201
	2 mos.	96	578,996	400	581,436	79,268	66,749	10,528	178,164	350,537	60.3	230,899	95,839	52,771	50,335
Lehigh & New England	Feb.	190	558,295	.....	561,371	51,812	114,189	7,545	155,217	350,068	62.4	211,303	117,015	124,528	102,616
	2 mos.	190	1,039,700	.....	1,045,283	93,728	231,778	14,553	298,656	678,903	64.9	366,380	201,884	215,216	184,400
Lehigh Valley	Feb.	1,260	6,825,130	657,263	7,921,156	1,004,067	1,239,761	122,810	3,084,568	5,649,621	71.3	2,271,535	1,325,383	843,410	1,004,732
	2 mos.	1,260	13,196,524	1,311,197	15,346,992	1,952,202	2,598,587	249,261	6,188,491	11,399,421	74.3	3,947,571	2,326,267	1,522,968	1,988,224
Louisiana & Arkansas	Feb.	834	1,372,995	143,410	1,576,946	369,324	177,877	33,929	361,002	1,005,545	63.8	571,401	234,035	169,781	190,099
	2 mos.	834	2,955,940	312,263	3,390,643	711,033	349,567	68,278	723,447	1,978,766	58.4	1,411,877	514,734	384,404	421,695
Louisville & Nashville	Feb.	4,745	12,947,377	3,574,742	17,529,115	1,670,561	2,749,287	219,331	5,082,131	10,302,638	58.8	7,226,477	1,870,644	2,204,647	2,098,238
	2 mos.	4,745	25,733,601	7,244,097	35,041,248	3,341,748	5,618,651	424,850	10,635,382	21,154,107	60.4	13,887,141	3,669,994	4,240,328	4,059,083
Maine Central	Feb.	988	1,202,365	302,699	1,598,951	311,358	296,340	11,806	624,410	1,287,781	80.5	311,170	212,565	165,088	199,431
	2 mos.	988	2,453,912	550,375	3,210,195	656,688	565,344	24,355	1,251,987	2,587,482	80.6	622,713	400,139	298,485	447,156
Midland Valley	Feb.	334	129,631	307	131,853	17,593	6,712	1,805	43,770	73,980	56.1	57,873	38,418	27,423	44,492
	2 mos.	334	289,536	333	294,225	33,880	20,360	4,418	93,205	161,038	54.7	133,187	75,613	53,704	115,020
Minneapolis & St. Louis	Feb.	1,408	1,133,388	30,369	1,207,294	203,494	179,743	65,316	403,042	904,056	74.9	303,238	53,591	63,178	320,715
	2 mos.	1,408	2,336,421	65,410	2,492,723	407,134	359,985	143,161	780,908	1,802,765	72.3	689,958	251,151	257,044	619,733
Minneapolis, St. Paul & Sault Ste. Marie	Feb.	4,277	3,335,565	211,679	3,780,004	529,126	670,177	75,076	1,558,956	2,958,494	78.3	821,510	546,964	476,757	498,754
	2 mos.	4,277	6,889,776	423,251	7,799,893	1,044,183	1,393,129	144,644	3,134,462	5,966,435	76.5	1,833,458	1,219,427	1,084,542	635,512
Duluth, South Shore & Atlantic	Feb.	551	334,823	34,568	387,696	63,266	51,495	8,200	139,387	270,234	69.7	117,462	97,395	83,187	4,940
	2 mos.	551	631,015	59,394	728,471	119,939	109,082	16,786	276,801	538,044	73.9	190,427	149,735	132,870	26,912
Spokane International	Feb.	152	142,386	8,687	158,986	50,234	13,711	3,445	45,155	120,063	75.5	38,923	25,959	13,074	45,737
	2 mos.	152	296,473	17,010	329,640	102,523	27,620	6,886	96,276	247,356	75.0	82,284	54,683	29,351	73,680
Mississippi Central	Feb.	158	178,765	3,402	184,599	34,552	17,187	10,392	47,137	118,760	64.3	65,839	41,779	28,561	32,730
	2 mos.	158	330,311	8,443	343,724	57,824	32,604	18,919	99,961	225,660	65.5	118,064	74,874	52,428	62,958
Missouri & Arkansas	Feb.	365	202,717	2,827	213,410	40,732	22,103	7,467	66,473	143,439	67.2	69,971	44,607	25,179	21,014
	2 mos.	365	364,140	5,724	391,033	84,430	40,053	14,973	130,934	283,670	72.5	107,363	69,890	32,938	27,493
Missouri-Illinois	Feb.	172	251,360	1,099	253,616	37,945	34,174	3,213	58,957	141,390	55.7	112,226	40,589	36,774	19,542
	2 mos.	172	507,270	2,859	512,516	86,010	68,532	6,552	120,432	295,779	57.7	216,737	83,071	72,987	60,785
Missouri-Kansas-Texas Lines	Feb.	3,293	4,388,047	1,003,155	5,870,960	1,184,197	737,477	132,812	1,810,417	4,085,740	69.6	1,785,220	957,963	632,613	958,694
	2 mos.	3,293	9,073,682	2,087,114	12,122,625	2,267,243	1,568,334	265,864	3,764,016	8,317,247	68.6	3,805,378	2,105,523	1,415,937	1,880,502
Missouri Pacific	Feb.	7,097	14,269,620	3,274,214	18,780,276	1,971,411	2,452,405	284,321	5,260,961	10,480,405	55.8	8,299,871	3,272,124	2,955,192	3,686,351
	2 mos.	7,097	28,283,491	6,805,521	37,667,993	3,817,684	4,973,731	561,076	10,640,245	21,030,365	55.8	16,637,628	7,511,552	5,911,664	8,209,762

Table of Revenues and Expenses continued on next left-hand page



TO
YA

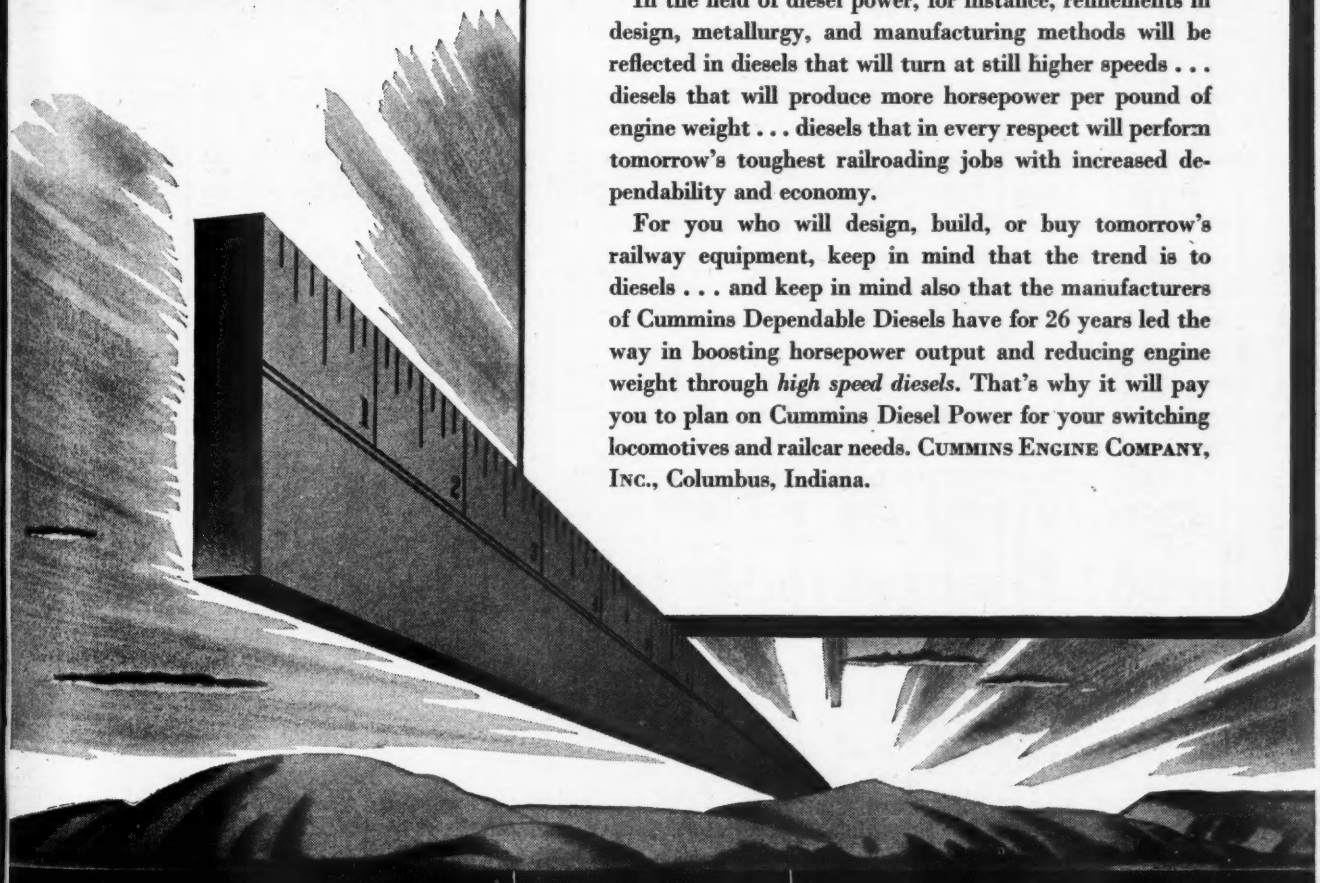
TOMORROW'S YARDSTICKS WILL BE LONGER

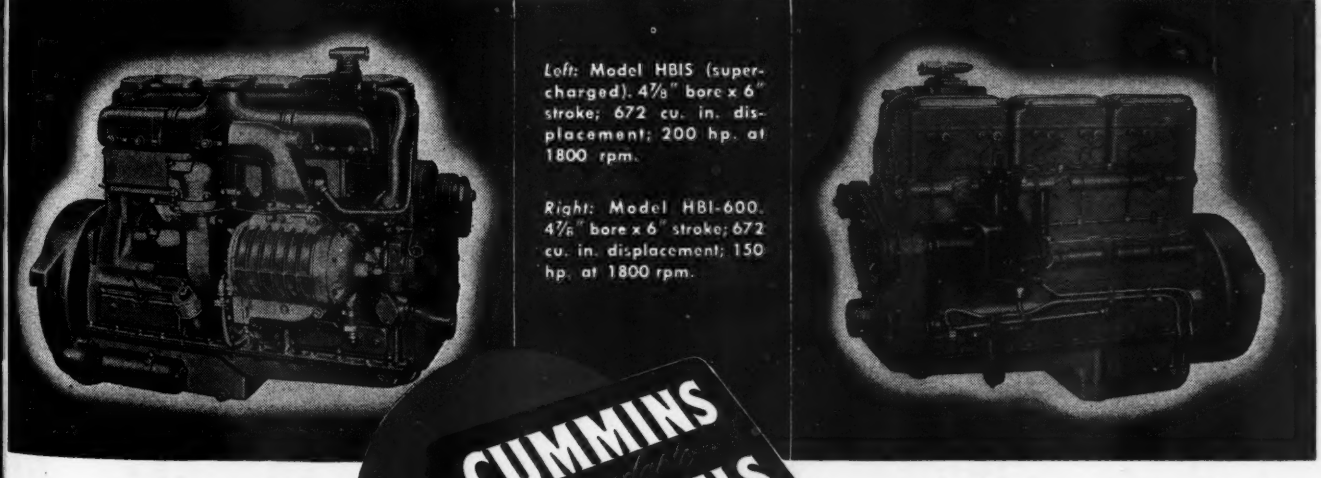
In American Industry today, far greater events are taking place "than meet the eye." For reasons of national security, many of these new developments in both products and processes are still in the "keep-it-under-your-hat" stage.

Even so, it is clear to all that accepted pre-war standards for quality and efficiency will be raised in the post-war period . . . clear to all that tomorrow's yardsticks will be longer.

In the field of diesel power, for instance, refinements in design, metallurgy, and manufacturing methods will be reflected in diesels that will turn at still higher speeds . . . diesels that will produce more horsepower per pound of engine weight . . . diesels that in every respect will perform tomorrow's toughest railroading jobs with increased dependability and economy.

For you who will design, build, or buy tomorrow's railway equipment, keep in mind that the trend is to diesels . . . and keep in mind also that the manufacturers of Cummins Dependable Diesels have for 26 years led the way in boosting horsepower output and reducing engine weight through *high speed diesels*. That's why it will pay you to plan on Cummins Diesel Power for your switching locomotives and railcar needs. CUMMINS ENGINE COMPANY, INC., Columbus, Indiana.





Left: Model HBIS (supercharged). 4⅞" bore x 6" stroke; 672 cu. in. displacement; 200 hp. at 1800 rpm.

Right: Model HBI-600. 4⅞" bore x 6" stroke; 672 cu. in. displacement; 150 hp. at 1800 rpm.

CUMMINS DIESELS

SINCE 1918...PIONEER OF PROFITABLE POWER THROUGH HIGH SPEED DIESELS

REVENUES AND EXPENSES OF RAILWAYS

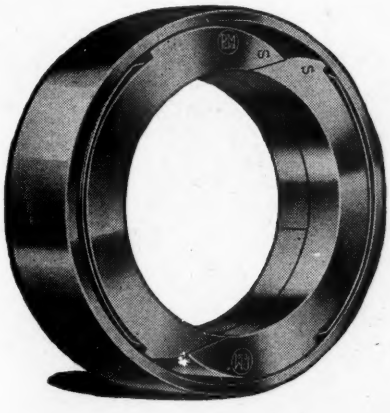
MONTH OF FEBRUARY AND TWO MONTHS OF CALENDAR YEAR 1944—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1944	Net railway operating income 1943
Gulf Coast Lines	Feb.	1,734	$3,915,600	$348,885	$4,409,563	$491,867	$337,146	$50,209	$943,019	$1,913,717	43.4	$2,495,846	$1,027,075	$716,705	$620,048
	2 mos.	1,734	7,548,601	689,499	8,534,375	1,007,858	674,684	103,903	1,916,017	3,886,579	45.54	4,647,796	2,004,569	1,338,880	1,108,518
International Great Northern	Feb.	1,110	1,679,279	442,008	2,359,184	393,202	336,134	33,846	743,381	1,602,151	67.9	757,033	413,424	285,181	371,155
	2 mos.	1,110	3,352,335	920,698	4,741,302	762,444	641,601	70,518	1,519,701	3,193,682	67.4	1,547,620	863,028	586,977	820,225
Monongahela	Feb.	170	529,915	1,598	533,657	63,243	40,574	998	147,632	256,091	48.0	277,566	168,008	87,515	150,022
	2 mos.	170	1,099,897	3,322	1,108,577	127,016	90,536	1,758	298,044	524,575	47.3	584,002	370,471	203,608	283,398
Montour	Feb.	51	218,232	.....	219,403	14,339	61,485	959	72,486	157,074	71.6	62,329	11,860	50,748	57,998
	2 mos.	51	442,742	.....	445,801	30,625	127,196	1,835	145,637	321,484	72.1	124,317	23,753	99,923	121,967
Nashville, Chattanooga & St. Louis	Feb.	1,072	2,581,003	697,877	3,525,585	563,477	701,912	92,103	1,118,192	2,575,626	73.1	949,959	534,741	497,052	592,957
	2 mos.	1,072	5,043,799	1,393,612	7,006,765	1,068,256	1,427,363	177,561	2,276,244	5,150,308	73.5	1,856,457	1,038,176	966,299	1,276,826
New York Central	Feb.	10,746	38,505,583	13,213,897	56,322,787	7,771,003	10,557,370	643,603	21,421,052	42,788,765	76.0	13,534,022	6,619,612	4,924,899	8,529,597
	2 mos.	10,831	76,415,509	26,858,033	113,964,960	15,676,702	21,561,294	1,344,013	43,350,763	86,559,138	76.0	27,405,822	13,390,690	9,810,245	15,467,081
Pittsburgh & Lake Erie	Feb.	229	2,557,234	94,850	2,730,926	313,436	908,712	43,779	905,635	2,279,097	83.5	451,829	—123,818	420,802	504,098
	2 mos.	229	5,202,294	194,582	5,569,638	626,838	1,850,859	87,193	1,838,416	4,618,204	82.9	951,434	—312,698	829,160	1,040,553
New York, Chicago & St. Louis	Feb.	1,688	7,733,235	522,008	8,398,373	763,940	1,146,789	138,714	2,637,775	4,885,092	58.2	3,513,281	1,433,205	953,879	1,061,200
	2 mos.	1,688	15,343,447	820,663	16,472,634	1,550,481	2,375,423	283,512	5,306,358	9,927,677	60.3	6,544,957	2,815,696	1,828,333	2,155,931
New York, New Haven & Hartford	Feb.	1,838	7,644,455	5,403,075	14,061,306	1,690,505	2,192,004	148,892	5,135,517	9,857,928	70.1	4,203,378	2,722,556	1,655,177	2,013,924
	2 mos.	1,838	15,320,142	10,942,900	28,515,412	3,415,397	4,366,827	322,015	10,562,114	20,065,156	70.4	8,450,256	5,488,612	3,398,691	4,437,196
New York Connecting	Feb.	21	182,240	.....	199,260	50,877	11,216	.....	59,689	123,439	61.9	75,821	25,781	160,468	66,626
	2 mos.	21	390,990	.....	440,955	103,324	29,369	.....	105,624	241,541	54.8	199,414	100,448	321,607	214,399
New York, Ontario & Western	Feb.	546	609,545	19,904	699,960	70,821	134,327	21,742	407,115	660,329	94.3	39,631	—645	—34,265	—20,084
	2 mos.	546	1,254,411	40,240	1,427,650	156,248	277,691	44,218	818,587	1,349,746	94.5	77,904	1,838	—60,195	—99,441
New York, Susquehanna & Western	Feb.	120	503,730	32,251	552,735	33,359	49,054	5,167	190,692	295,104	53.4	257,631	173,049	112,477	90,975
	2 mos.	120	964,080	65,791	1,062,114	66,149	93,520	9,637	376,654	579,395	54.5	482,719	323,407	186,288	160,710
Norfolk & Western	Feb.	2,154	10,676,943	1,211,549	12,428,102	1,359,212	2,637,366	173,196	3,026,459	7,732,114	62.2	4,695,988	1,138,690	1,848,655	1,639,166
	2 mos.	2,154	22,062,059	2,587,813	25,573,689	2,730,074	5,325,299	336,057	6,175,162	15,415,537	60.3	10,158,152	2,444,542	3,917,623	3,690,068
Norfolk Southern	Feb.	728	578,733	27,248	627,515	155,493	81,192	31,068	222,394	517,545	82.5	109,970	65,665	42,084	81,638
	2 mos.	728	1,155,206	57,521	1,257,462	305,343	163,247	60,897	462,005	1,048,918	83.4	208,544	123,401	77,506	151,630
Northern Pacific	Feb.	6,867	9,328,413	1,479,696	11,735,377	1,442,802	2,347,827	180,532	3,586,062	8,086,368	68.9	3,649,009	1,311,415	1,706,121	2,120,372
	2 mos.	6,867	18,247,082	3,138,153	23,363,560	3,061,996	4,761,265	351,241	7,295,227	16,558,438	70.9	6,805,122	2,437,562	3,275,697	4,117,338
Northwestern Pacific	Feb.	331	443,231	14,149	476,101	163,720	59,693	3,760	150,650	385,076	80.9	91,025	66,301	48,126	51,895
	2 mos.	331	856,186	28,112	924,029	351,112	127,273	5,476	299,323	796,625	86.2	127,404	74,730	33,846	112,027
Oklahoma City-Ada-Atoka	Feb.	132	128,252	698	130,042	20,105	4,555	984	30,678	60,646	46.6	69,396	40,483	25,961	31,077
	2 mos.	132	260,272	1,061	263,589	35,201	8,548	2,391	60,718	116,135	44.1	147,454	83,775	55,537	50,942
Pennsylvania	Feb.	10,101	54,694,429	19,859,369	79,935,409	8,843,863	15,043,217	980,625	32,334,051	60,210,954	75.3	19,724,455	7,725,093	6,571,800	4,544,928
	2 mos.	10,106	107,497,814	40,892,667	159,468,702	17,833,295	30,319,809	2,083,387	65,637,056	121,659,198	76.3	37,809,504	13,940,052	12,184,637	11,523,365
Long Island	Feb.	376	1,177,437	1,804,941	3,128,685	550,419	523,609	36,792	1,574,340	2,749,714	87.9	378,971	93,954	—132,576	—70,949
	2 mos.	376	2,195,517	3,752,781	6,273,531	1,105,931	1,047,147	46,903	3,170,778	5,491,078	87.5	782,453	213,553	—234,875	—258,418
Pennsylvania-Reading Seashore Lines	Feb.	392	474,804	210,601	724,762	151,079	105,692	8,643	429,292	716,390	98.8	8,372	—82,955	—179,182	—70,985
	2 mos.	392	902,048	411,126	1,385,074	299,937	208,796	16,013	859,332	1,429,110	103.2	—44,036	—227,648	—419,254	—221,398
Pere Marquette	Feb.	1,979	3,961,859	274,246	4,405,435	725,970	795,277	72,397	1,596,804	3,378,002	76.7	1,027,433	392,958	428,232	647,445
	2 mos.	1,979	7,938,319	582,701	8,898,808	1,436,340	1,570,889	139,905	3,266,049	6,772,904	76.1	2,125,904	774,646	738,228	1,168,081
Pittsburg & Shawmut	Feb.	97	139,785	.....	140,372	18,432	21,084	1,688	38,207	85,135	60.6	55,237	60,318	57,636	21,398
	2 mos.	97	273,461	.....	274,807	41,340	46,196	3,230	76,250	177,757	64.7	97,050	85,789	80,881	36,711
Pittsburgh & West Virginia	Feb.	136	558,219	26	576,890	76,152	119,608	21,335	148,568	391,792	67.9	185,098	118,074	147,317	132,027
	2 mos.	136	1,115,043	26	1,153,152	161,329	242,127	41,293	290,238	788,292	68.4	364,860	222,538	285,308	268,972
Pittsburg, Shawmut & Northern	Feb.	190	111,727	.....	112,784	21,407	23,957	1,059	49,995	102,830	91.2	9,954	3,150	—2,943	15,573
	2 mos.	190	228,129	.....	231,348	43,604	48,933	2,125	99,670	206,483	89.2	24,865	11,387	—1,290	23,164
Reading	Feb.	1,416	8,409,491	781,806	9,618,439	1,044,556	1,849,352	79,775	3,548,948	6,720,046	69.9	2,898,393	1,435,110	1,146,954	1,518,326
	2 mos.	1,416	16,582,726	1,610,708	19,038,431	1,972,301	3,661,306	159,443	7,054,956	13,251,889	69.6	5,786,542	2,758,976	2,194,461	2,879,240
Richmond, Fredericksburg & Potomac	Feb.	118	1,497,955	1,335,101	3,066,368	168,369	299,652	14,293	780,887	1,375,235	44.8	1,691,133	456,269	277,679	290,144
	2 mos.	118	3,070,474	2,708,631	6,319,315	339,652	599,163	27,861	1,596,896	2,787,748	44.1	3,531,567	938,672	585,054	629,181

Table of Revenues and Expenses continued on next left-hand page

but doing a BIG job

America's railroads are doing the biggest transportation job in history despite the toughest, most severe operating conditions ever known. Effective packing of piston rods and valve stems is one of the many things which has contributed to the accomplishment of this feat. P-M Metallic Packing is helping to save manpower as well as vital fuel—and is increasing the operating efficiency of thousands of steam-powered locomotives. It offers the utmost in dependable, long-lasting, power-packing efficiency with a minimum of maintenance. Because P-M is truly *the packing that packs*, it has for years been a standard of the steam power field. Let a P-M Service Engineer help you with your packing problems.



PAXTON-MITCHELL COMPANY
2614 Martha Street — Omaha 5, Nebraska
P-M Metallic Rod Packing ★ P-M Iron and Bronze Castings
Export Department
International Railway Supply Company
30 Church Street — New York 7, New York

The Packing that Packs **P-M** *Metallic Packing*

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF FEBRUARY AND TWO MONTHS OF CALENDAR YEAR 1944—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1944	Net railway operating income 1943
Rutland	Feb.	407	$251,927	$54,118	$360,683	$59,620	$87,610	$10,715	$198,752	$370,814	102.8	—$10,131	—$34,913	—$33,791	$4,384
	2 mos.	407	505,313	112,081	732,555	117,438	175,858	22,524	408,728	754,704	103.0	—22,149	—72,477	—71,249	—7,969
St. Louis-San Francisco	Feb.	4,659	6,472,305	1,773,508	8,876,001	1,093,452	1,707,580	165,185	3,020,649	6,315,105	71.1	2,560,896	1,176,355	1,157,447	1,873,877
	2 mos.	4,659	12,799,453	3,727,161	17,833,102	2,181,079	3,400,184	328,471	6,069,740	12,649,503	70.9	5,183,599	2,821,652	2,816,556	3,427,623
St. Louis, San Francisco & Texas	Feb.	159	273,041	27,047	307,705	33,243	30,294	10,620	98,337	180,152	58.5	127,553	51,449	23,615	83,514
	2 mos.	159	557,784	44,361	617,110	67,317	59,483	20,073	194,014	355,099	57.5	262,011	138,073	85,677	164,303
St. Louis Southwestern Lines	Feb.	1,607	4,817,779	262,676	5,210,652	509,355	519,535	103,959	1,303,244	2,571,040	49.3	2,639,612	1,041,635	753,208	772,046
	2 mos.	1,607	9,346,386	536,865	10,145,874	1,085,472	1,050,732	201,892	2,661,441	5,254,913	51.8	4,890,961	1,963,999	1,384,551	1,387,007
Seaboard Air Line	Feb.	4,177	7,723,887	3,601,214	12,070,087	1,334,873	1,608,425	233,272	3,430,688	7,093,162	58.8	4,976,925	2,476,925	1,952,094	3,547,796
	2 mos.	4,177	15,337,425	7,363,061	24,219,346	2,718,725	3,273,946	466,248	6,978,354	14,398,665	59.5	9,820,681	4,920,681	3,849,404	7,072,340
Southern Railway	Feb.	6,513	15,048,842	4,810,423	21,056,560	2,381,384	3,099,678	235,175	5,747,132	12,118,780	57.6	8,937,780	3,138,974	2,822,106	2,844,347
	2 mos.	6,513	30,025,978	9,617,877	42,129,351	4,860,603	6,346,403	446,307	11,791,575	24,760,342	58.8	17,369,009	6,154,286	5,488,102	5,680,877
Alabama Great Southern	Feb.	315	1,325,195	419,532	1,836,350	166,280	275,750	26,562	507,602	1,030,751	56.1	805,599	246,925	200,161	221,271
	2 mos.	315	2,557,175	907,348	3,659,244	319,889	557,315	53,126	1,021,549	2,059,315	56.3	1,599,929	474,008	375,791	395,585
Cincinnatti, New Orleans & Texas Pacific	Feb.	337	2,241,436	737,594	3,129,921	284,961	628,115	45,350	711,279	1,757,664	56.2	1,372,257	412,595	458,626	499,076
	2 mos.	337	4,307,993	1,366,602	5,980,185	590,147	1,306,133	81,021	1,566,115	3,716,852	62.2	2,263,333	667,059	800,614	906,357
Georgia Southern & Florida	Feb.	397	290,282	197,907	540,050	73,935	64,150	2,636	168,412	326,151	60.4	213,899	86,249	49,777	89,971
	2 mos.	397	592,421	385,422	1,091,120	141,290	129,707	5,139	349,955	661,341	60.6	429,779	177,948	108,857	178,309
New Orleans & Northeastern	Feb.	204	777,831	193,565	1,016,076	100,418	116,706	13,352	296,245	563,185	55.4	452,891	168,887	84,950	126,887
	2 mos.	204	1,554,973	384,656	2,034,682	238,423	239,955	28,294	626,463	1,205,371	59.2	829,311	341,002	156,580	238,655
Southern Pacific	Feb.	8,263	26,729,373	8,328,692	38,255,112	5,528,288	7,120,891	540,818	11,849,514	27,076,409	70.8	11,178,703	3,820,764	2,652,995	5,559,567
	2 mos.	8,263	54,622,589	17,272,671	78,278,852	11,128,871	14,437,142	1,104,324	24,368,913	55,140,499	70.4	23,138,353	8,848,353	6,299,329	11,135,633
Texas & New Orleans	Feb.	4,341	8,255,943	2,149,618	10,952,596	1,341,133	1,256,797	125,856	2,697,869	5,818,671	53.1	5,133,925	1,955,035	1,441,165	2,365,993
	2 mos.	4,341	16,726,397	4,571,366	22,490,881	2,647,700	2,415,273	273,853	5,533,473	11,644,147	51.8	10,846,734	4,024,935	2,978,874	4,733,579
Spokane, Portland & Seattle	Feb.	943	1,443,516	186,174	1,719,432	563,269	176,562	13,645	606,577	1,428,320	83.1	291,111	187,871	—4,714	560,996
	2 mos.	943	2,859,740	357,813	3,418,900	887,351	344,436	25,522	1,285,979	2,673,395	78.2	745,504	389,588	26,705	1,175,004
Tennessee Central	Feb.	286	367,175	49,421	437,790	78,825	60,858	7,598	140,871	307,027	70.1	130,763	43,460	24,084	60,987
	2 mos.	286	730,722	123,911	898,664	178,795	120,247	14,708	278,861	629,778	70.1	268,886	144,912	105,635	97,302
Texas & Pacific	Feb.	1,884	4,298,675	1,649,500	6,508,204	885,373	971,676	102,933	1,500,286	3,717,039	57.1	2,791,165	719,239	563,321	769,117
	2 mos.	1,884	8,497,375	3,353,506	13,020,935	1,703,281	2,006,167	210,307	3,040,561	7,487,265	57.5	5,533,670	1,444,519	1,112,842	1,445,457
Texas Mexican	Feb.	162	143,436	1,582	166,579	24,160	15,934	4,409	42,164	95,813	57.5	70,766	51,618	49,161	42,973
	2 mos.	162	276,380	2,454	327,915	44,807	33,097	8,560	83,776	189,036	57.6	138,879	100,999	92,081	142,265
Toledo, Peoria & Western	Feb.	239	440,590	6	443,207	34,403	21,289	22,834	88,584	180,724	40.8	262,479	233,870	214,101	162,818
	2 mos.	239	895,461	25	900,325	71,080	43,005	47,268	185,456	374,690	41.6	525,635	480,965	439,147	339,840
Union Pacific System	Feb.	9,782	28,203,489	6,992,667	38,183,034	5,195,865	7,030,246	529,535	10,817,305	25,268,453	66.2	12,914,581	4,003,831	3,195,874	3,486,006
	2 mos.	9,782	56,341,393	14,119,479	76,416,446	10,370,161	14,876,814	1,155,589	22,857,660	52,774,424	69.1	23,642,022	7,262,189	5,558,338	6,405,498
Utah	Feb.	111	138,680	.....	138,731	14,761	44,406	698	39,321	103,137	74.3	35,594	20,909	13,933	11,528
	2 mos.	111	280,287	.....	280,365	31,152	87,806	1,186	80,857	209,462	74.7	70,903	39,720	28,602	29,822
Virginian	Feb.	657	2,403,074	6,964	2,489,235	223,282	526,190	25,740	539,780	1,379,167	55.4	1,110,068	535,068	613,016	609,649
	2 mos.	657	4,961,802	14,753	5,127,957	456,472	1,062,565	50,255	1,096,491	2,793,263	54.5	2,334,694	1,084,694	1,234,620	1,271,392
Wabash	Feb.	2,393	6,416,857	836,060	7,711,570	859,157	906,778	170,502	2,355,823	4,507,408	58.4	3,204,162	1,141,566	761,795	846,590
	2 mos.	2,393	12,833,952	1,704,323	15,397,799	1,722,664	1,881,298	346,435	4,905,286	9,331,071	60.6	6,066,728	2,223,351	1,508,636	1,713,587
Ann Arbor	Feb.	294	452,592	6,929	467,141	53,235	78,979	16,153	196,822	353,909	75.8	113,232	61,321	56,588	35,417
	2 mos.	294	931,421	13,299	961,999	107,210	160,688	32,989	496,339	729,003	75.8	232,996	125,813	116,241	87,260
Western Maryland	Feb.	840	3,121,029	32,096	3,247,899	321,383	542,002	38,982	908,163	1,893,760	58.3	1,354,139	757,139	783,908	690,373
	2 mos.	840	6,152,241	60,473	6,394,487	622,484	1,117,092	83,094	1,759,737	3,755,196	58.7	2,639,291	1,472,291	1,535,858	1,473,346
Western Pacific	Feb.	1,195	2,117,596	493,081	2,755,105	458,321	521,833	79,628	1,111,416	2,307,457	83.8	447,648	303,955	240,234	490,891
	2 mos.	1,195	5,640,693	1,018,741	6,932,196	900,034	1,040,886	154,980	2,325,316	4,688,334	67.6	2,243,862	1,038,903	794,563	1,005,815
Wheeling & Lake Erie	Feb.	507	1,900,121	2	1,952,187	175,696	355,174	41,618	592,245	1,218,762	62.4	733,425	64,725	251,395	273,909
	2 mos.	507	3,706,262	16	3,807,515	358,832	757,393	82,005	1,165,773	2,467,757	64.8	1,339,758	87,925	492,973	559,860